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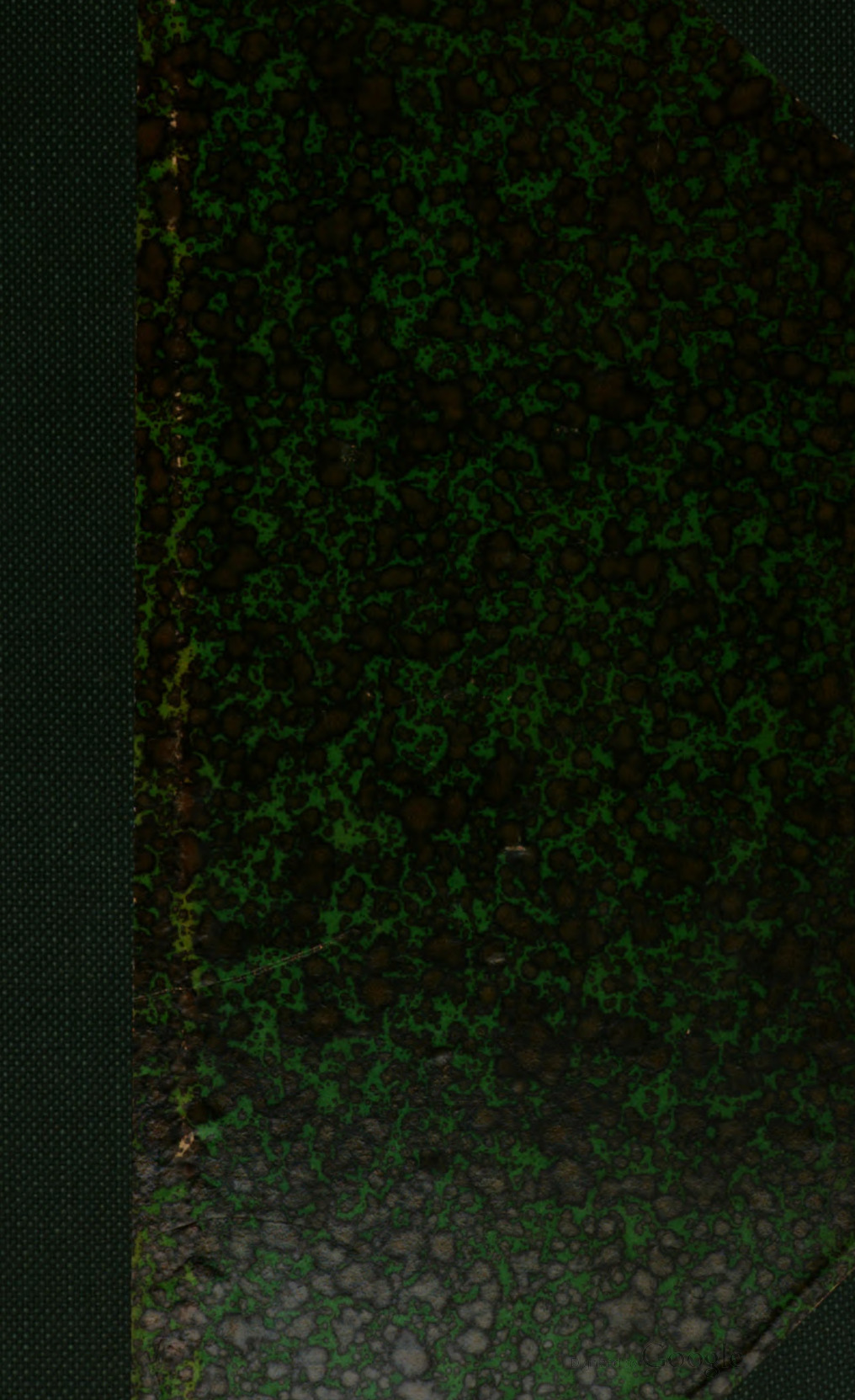
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THE
Avicultural Magazine,

BEING THE JOURNAL OF
THE AVICULTURAL SOCIETY
FOR THE STUDY OF
FOREIGN AND BRITISH BIRDS
IN FREEDOM AND CAPTIVITY.

EDITED BY
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REPORT OF THE COUNCIL FOR THE YEAR 1906-7.

In presenting the fifth complete volume of the New Series—the thirteenth annual volume of the *Avicultural Magazine*—the Council believes that it will be found quite up to, if not above, the average of the past volumes in interest. Six coloured, nineteen uncoloured plates, and some text illustrations have been published, and many very valuable articles have appeared.

Our members have given us a list, of quite a respectable length, of birds which they have bred, it is believed for the first time in the United Kingdom. Accounts of the successful nesting of the following species have appeared: Mrs. Johnstone, Fraser's or the Great-billed Touracou (*Turacus macrorhynchus*) and the Lorikeet (*Trichoglossus johnstoniæ*) which was named after her; Mr. W. H. St. Quintin, the Pine Grosbeak (*Pyrrhula enucleator*); Mr. J. H. Gurney, the Jackal Buzzard (*Buteo jackal*); Mr. E. J. Brook, the White-eared Conure (*Pyrrhura leucotis*); Mr. W. E. Teschemaker, the Yellow-rumped Finch (*Munia flaviprymna*), and the Yellow-rumped or Black-throated Serin (*Serinus angolensis*); and Mr. W. R. Fasey, the Adelaide Parrakeet (*Platyercus adalaidensis*).

Through the enterprise of two of our members—Mrs. Johnstone and Sir William Ingram,—and the energy of their collectors, Messrs. Goodfellow and Pratt, the year 1907 has been marked by the arrival of quite a remarkable collection of living Birds-of-Paradise (pages 242 and 324).

The experiment organized by members of the Avicultural Society, of liberating certain species of foreign Doves in Regent's Park, accounts of which are published in this volume, appears, so far, to have been a success; two species, namely, *Ocyphaps lophotes* and *Turtur senegalensis*, are known to have reared young, the former freely. It would seem to be desirable, from time to time, to liberate additional specimens of these harmless and beautiful birds, in order to keep up the stock.

The membership of the Society remains about the same as

last year as regards numbers, which is not quite satisfactory as we feel sure there are still numbers of persons who only need to know of the Society in order to join us. We would urge upon our present members the desirability of introducing others.

It would greatly lessen an unnecessary drain on our resources if members who intend to resign would communicate the fact to the Honorary Secretary as early in the year as possible instead of allowing numerous notices to be sent out.

Our grateful thanks are due to those members who have helped us in the production of the present volume, either by their contributions to its pages or the introduction of new members. Our sincere thanks are also due to those who have so kindly contributed towards the Illustration Fund.

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- BAIRD, Sir ALEXANDER, Bart.; Urie, Stonehaven, Kincardine, N.B. (Oct., 1904).
- BAKER, E. C. STUART, F.Z.S., M.B.O.U.; District Superintendent of Police, Morven Shillong, Assam, India. (Feb., 1904).
- BAKER, JOHN, C., M.B., B.A., M.B.O.U.; Ceely House, Aylesbury. (June, 1903).

- 20 BALDELLI, La Contessa TOMMASI ; 4, Via Silvio Pellico, Florence, Italy. (April, 1902).
- BAMFORD, WILLIAM ; Shorelea, Wellington Road, Oldham. (March, 1904).
- BARBER, Mrs. ; Milestone Cottage, Wickford, Essex. (Jan., 1899).
- BARBER-STARKEY, F. W. G. ; Aldenham Park, Bridgnorth, Shropshire. (June, 1906).
- BARCLAYWATSON, Miss F. ; The Court House, Goring, Sussex. (July, 1902).
- BATESON, The Hon. LILLA DE YARBURGH ; Heslington, York. (Feb., 1900).
- BATHE, FRANK ; 5, Montgomery Road, Sharrow, Sheffield. (April, 1903 : dormant 1904-5).
- BATHGATE JOHN ; c/o John Miller & Co., 1/1, Vansittart Row, Calcutta, India. (Oct., 1903).
- BEARDALL, A. W. ; 12, Middle Hill, Weekday Cross, Nottingham. (July, 1904).
- BEDFORD, The Duchess of, F.Z.S. ; Woburn Abbey, Woburn, Beds. : and 15, Belgrave Square, S.W. (Feb., 1903).
- 30 BEEBE, C. WILLIAM, Curator of Ornithology ; New York Zoological Park, New York City. (July, 1903).
- BELLEW, The Lord ; Barmeath Castle, Dunleer, R. S. O., Ireland. (Nov., 1904).
- BENTLEY, DAVID ; 80, St. Hubert's Street, Great Harwood, Blackburn. (July, 1895).
- BERESFORD-WEBB, G. M. ; Norbryght, South Godstone, Surrey, (May, 1906).
- BERKELEY, The Rev. C. J. ROWLAND ; Belton Vicarage, Uppingham. (Nov., 1902).
- BERLEPSCH, FREIHERR HANS von ; 2, Landaustrasse, Cassel, Germany. (July, 1905).
- BLAAUW, F. E., C.M.Z.S., M.B.O.U. ; Gooilust s, Graveland, Hilversum, Holland. (Nov., 1901).
- BLATHWAYT, A. P. ; The Grange, Northwood, Middlesex. (Jan., 1895).
- BLATHWAYT, The Rev. FRANCIS LINLEY, M.A., M.B.O.U. ; 5, Monk Leys Terrace, Lincoln. (Jan., 1902).
- BONHOTE, JOHN LEWIS, M.A., F.L.S., F.Z.S., M.B.O.U. ; Gadespring Lodge, Hemel Hempstead, Herts. : and 113, Blenheim Crescent, Notting Hill, W. (Dec., 1894).
- 40 BOOTH, H. B., M.B.O.U. ; 40, Spring Royd, Shipley, Yorks. (March, 1906).
- BOOTHROYD, ALFRED E. ; The Limes, Fitzroy Park, Highgate, N. (Sept., 1901).
- BOUGHTON-LEIGH, HENRY ; Brownsover Hall, Rugby. (May, 1900).
- BOUSKILL, GEO., E. ; Romanhurst, Bramall Lane, Stockport. (April, 1896).
- BOWES, JOHN, J.P., F.Z.S. ; East Hill House, Herne Bay. (Oct., 1900).
- BOWIE, Miss HELEN ; Queen's Parade, Clifton Hill, Melbourne, Victoria. (Nov., 1903).
- BOYD, HAROLD ; Barton House, Didsbury, Manchester. (March, 1902).
- BRADSHAW-ISHERWOOD, Mrs. ; Maidstone Road, Headcorn. (June, 1892 ; dormant).

- BRAMPTON, Miss E. ; 8, Chesterford Gardeus, Frogual, Hampstead, N.W. (Feb., 1898).
- BRELSFORD, JOHN ; 75, Wellington Road North, Stockport. (Oct., 1902).
- 50 BRIDGEMAN, Lieut., The Hon. RICHARD, O.B., R.N., M.B.O.U. ; Weston Park, Shifnal, Salop. (Dec., 1904).
- BRIDGEMAN, Colonel, The Hon. FRANCIS C. ; Neachley, Shifnal. (Oct., 1905).
- BROMET, Mrs. HENRY ; Highfield, Tadcaster. (Oct., 1903).
- BROOK, E. J. ; Hoddon Castle, Ecclefechan, N.B. (August, 1905).
- BROTHERSTON, G. M. ; 18, St. John Street, Edinburgh. (Feb., 1895 ; dormant 1901-5).
- BROWNING, WILLIAM H., 18, West 54th Street, New York City. (March, 1906).
- BUBB, Miss ; Ullenwood, near Cheltenham. (June, 1904).
- BULL, HENRY J. ; 166, Upper Kennington Lane, Vauxhall, S.E. (Feb., 1903).
- BURGE, SAMUEL ; Ivy Cottage, Fairford. (November, 1896).
- BURGESS, H. W. ; High Street, Bushey, Herts. (Nov., 1900).
- 60 BURTON, WALTER ; Moorefort, East Sheen, Mortlake, S.W. (Dec., 1901).
- BUTLER, ARTHUR G., Ph.D., F.L.S., F.Z.S., (*Hon. Correspondence Secretary*) ; 124, Beckenham Road, Beckenham, Kent. (Orig. Mem.).*
- BUTLER, A. L., F.Z.S., M.B.O.U. ; Superintendent of Game Preservation, Khartoum, Soudan. (Aug., 1906).
- BUTLER, ARTHUR LARCHIN, M. Aust. O. U. ; Waimarie, Lower Sandy Bay, Hobart, Tasmania. (July, 1905).
- BUTLER, Colonel SOMERSET J. ; Kilmurry, Thomastown, co. Kilkenny. (June, 1904).
- CAMPBELL, The Hon. IAN, M. ; Bramble Farm, Wye, Kent. (Dec., 1905).
- CAMPS, H. T. T., F.Z.S. ; Linden House, Haddenham, Isle of Ely. (Orig. Mem.).*
- CAPER, F. ; 53, Redland Road, Bristol. (March, 1903).
- CARLYON, Mrs. ; The Rise, Brockenhurst, Hants. (Dec., 1900).
- CARPENTER, The Hon. Mrs. ; 22, Grosvenor Road, S.W. (Feb., 1898).
- 70 CARRICK, GEORGE ; 13, King's Terrace, Maryhill, Glasgow. (March, 1898).
- CASTELLAN, VICTOR, F. ; Hare Hall, Romford, Essex. (Orig. Mem.).
- CASTLE-SLOANE, C., F.Z.S. ; Oat Hall, near Crawley, Sussex. (March, 1900).
- CATKUGH, W. T. ; Clyffe, Richmond Wood Road, Bournemouth. (Dec., 1894).
- CATTLE, C. F. ; Thurston, Bury St. Edmunds. (Jan., 1905).
- CECIL, The Lady WILLIAM ; Hunmanby Hall, Filey, Yorkshire. (Feb., 1901).
- CHAPMAN, P. GODFREY ; 21, Lennox Gardens, S.W. (Oct., 1898).

- CHARRINGTON, Mrs. MOWBRAY ; The Warren, Hever, Edenbridge.
Kent. (May, 1896).
- CHATWIN, HERBERT F. ; 23, King Street, Nottingham. (Jan., 1902).
- CHAWNER, Miss ; Forest Bank, Lyndhurst, Hants. (July, 1899).
- 80 CLITHEROW, Mrs. CLAUD TRACEY ; 20, Park Square, Regent's Park,
N.W. (June, 1903).
- CLOSE, Mrs. M. FARNHAM ; 17, The Causeway, Horsham. (Feb., 1906).
- COCKELL, NORMAN FORBES ; 21, Camac Street, Calcutta, India.
(Nov., 1905).
- CONNELL, Mrs. KNATCHBULL ; The Orchard, Brockenhurst, Hants,
(Nov., 1897).
- CONSTABLE, The Rev. W. J. ; Uppingham School, Uppingham.
(Sept., 1901).
- CONYNGHAM, The Dowager Marchioness ; 36, Belgrave Square, S.W.
(Jan., 1900).
- COOPER JAMES ; Killerby Hall, Scarborough. (Orig. Mem.).
- CORBET, Lady NINA ; Acton Reynald, Shrewsbury. (Oct., 1905).
- CORY, REGINALD R. ; Duffryn, near Cardiff. (August, 1905).
- COXWELL-ROGERS, Miss ; Park Gate, Cheltenham. (Dec., 1895).
- 90 CRESSWELL, O. ERNEST, M.A., J.P. ; Morney Cross, near Hereford.
(Orig. Mem.).
- CRESWELL, WILLIAM GEORGE, M.D., F.Z.S. ; Eden Lodge, Kingston-
on-Thames. (June, 1900).
- CRONKSHAW, J. ; 100, Arden Terrace, Plantation Street, Accrington.
(Dec., 1894).
- CROWFOOT, Miss ELLEN M. ; Blyburgate House, Beccles. (Sept., 1904).
- CUMMINGS, A. ; 16, Promenade Villas, Cheltenham. (Dec., 1896).
- CURREY, Mrs. ; The Pit House, Ewell, Surrey. (Feb., 1906).
- CUSHNY, CHARLES ; The Bath Club, 34, Dover Street, Piccadilly, W.
(June, 1906).
- DALGLIESH, GORDON ; Brook Witley, near Godalming, Surrey.
(October, 1906).
- DARLING, J. FFOILLIOTT, F.Z.S. ; C. M. Royal Dublin, Z. S., Salisbury,
Rhodesia. (May, 1904).
- DART, HENRY ; 53, Richmond Road, Kingston-on-Thames. (May.,
1903).
- 100 DAVIES, AMOS ; Toar House, Audenshaw, near Manchester. (Jan., 1906).
- DAWNAY, The Lady ADELAIDE ; Brampton House, Northampton.
(July, 1903).
- DELL, CHARLES ; 12, High Street, Harlesden, N.W. (July, 1900).
- DE MANCHA, JOSE M. ; 1, Gledhow Gardens, Earl's Court, S.W.
(Oct., 1902).
- DENNIS, Mrs. H. E. ; The Beeches, Fay Gate, Sussex. (March, 1903).
- DE TAINTEGNIES, La Baronne, Le Clément ; Cleveland, Minehead,
Somerset. (Feb., 1902).
- D'EVELYN, Dr. FREDERICK W., Pres. G. S. Cal., etc. etc. ; 2103, Clin-
ton Avenue, Alameda, California, U.S.A.
- DEWAR, D. ; St. Heliers, Hampton Wick. (Sept., 1905).

- DEWING, Miss Z. M.; Rougham House, Bury St. Edmunds. Sept. 1906).
- DE WINTON, WILLIAM EDWARD, F.Z.S., M.B.O.U.; Orierton, Pembroke. (August, 1903).
- 110 Director of the Scientific Institutions and Library of H.R.H. the Prince of BULGARIA; The Palace, Sophia, Bulgaria. (May, 1903).
- DONALD, C. H.; c/o Punjab Banking Company, Ltd., Lahore, India. (March, 1906).
- DOUGLAS, Miss; Rose Mount, Pitlochry, N.B. (June, 1905).
- DOUGLAS, WILLIAM C., F.Z.S.; 9, Trebovir Road, Earl's Court, S.W. (Nov., 1900).
- DREWITT, FREDERICK DAWTREY, M.A., M.D., F.R.C.P., F.Z.S., M.B.O.U.; 14, Palace Gardens Terrace, Kensington, W. (May, 1903).
- DRUMMOND, Miss; Mains of Megginch, Errol, N.B. (Feb., 1905).
- DUFF, The Lady GRANT; 11, Chelsea Embankment, S.W. (Aug., 1905).
- DUNLEATH, The Lady; Ballywalter Park, Ballywalter, co. Down, Ireland. (August, 1897).
- DUNSANY, The Lady; Dunstall Priory, Shoreham-by-Sevenoaks, Kent. (Feb., 1902).
- DUTTON, The Hon. and Rev. Canon; Bibury, Fairford. (Orig. Mem.).
- 120 EDWARDS, G.; 377, Coldharbour Lane, Brixton, S.W. (August, 1902).
- EDWARDS, STANLEY, B.A., F.Z.S.; Blackwater Covert, Southwold. (Sept., 1906).
- EVELYN, Dr. FREDERIC, M.D., Pres. G. S. Cal. etc.; 2103, Clinton Avenue, Alameda, California. (1906).
- EZZA, DAVID; 59, Ezra Street, Calcutta. (June, 1902).
- FARMBOROUGH, PERCY W., F.Z.S.; Lower Edmonton. (June, 1906).
- FARRAR, The Rev. C. D.; Micklefield Vicarage, Leeds. (Jan., 1895).
- FASEY, WILLIAM R.; The Oaks, Holly Bush Hill, Snaresbrook, N.E. (May, 1902).
- FEILDING, The Lady LOUISA; Broome Park, Betchworth, Surrey. (July, 1902).
- FFOULKES, Mrs.; St. Melangell, Brighton Road, Rhyl. (August, 1903).
- FIELD, GEORGE; Sorrento, Staplehurst, Kent. (March, 1900).
- 130 FILLMER, HORATIO R.; Brendon, Harrington Road, Brighton. (Dec., 1903).
- FINN, FRANK, B.A., F.Z.S., M.B.O.U.; 29, Chalcot Crescent, Primrose Hill, London, N.W. (March, 1895).
- FLOWER, Capt. STANLEY S., F.Z.S., M.B.O.U.; Director, Egyptian Government Zoological Gardens; Ghizeh (Giza), Cairo. (Jan., 1903).
- FOLLETT, The Lady JULIA; Woodside, Old Windsor. (Oct., 1903).
- FORTESCUE, The Countess; Castle Hill, North Devon. (July, 1906).
- FORTUNE, RILEY, F.Z.S.; Llandesfarne, Dragon Road, Harrogate. (Nov., 1906).
- FOSTER, WM. HILL; 164, Portland Street, Southport. (Jan., 1902).

- FOTHERGILL, Major HENRY, J.P.; Copt Hall, Hawkhurst. (April, 1900).
- FOWLER, CHARLES; 26, Broad Street, Blaenavon. (Dec., 1894).
- FURNEAUX, Miss; 35, Banbury Road, Oxford. (June, 1895).
- 140 GIBBS, Mrs. H. MARTIN; Barrow Court, Flax Bourton, R. S. O., Somerset. (April, 1904).
- GIBBINS, WILLIAM B.; Ettington, near Stratford-on-Avon. (June, 1895).*
- GILES, HENRY M., M. Aust. O. U., (Orig. Mem.); Zoological Gardens, Perth, Western Australia. (June, 1903).
- GILL, ARTHUR, M.R.C.V.S.; Veterinary Establishment, Bexley Heath, Kent. (Dec., 1899).
- GILROY, NORMAN, M.B.O.U.; 95, Claremont Road, Forest Gate, E. (July, 1906).
- GLADSTONE, Miss J.; The Lodge, Parkstone, Dorset. (July, 1905).
- GODDARD, H. E.; Rothsay, Thicket Road, Sutton, Surrey. (Feb., 1899).
- GODMAN, F. DUCANE, D.C.L., F.R.S., F.Z.S., President of the British Ornithologists' Union; 10, Chandos Street, Cavendish Square, W. (Oct., 1904). (*Honorary Member*).
- GOODALL, J. M.; 52, Oxford Gardens, N. Kensington, London, W. (July, 1905).
- GOODCHILD, HERBERT, M.B.O.U.; 66, Gloucester Road, Regent's Park, N.W. (Oct., 1902).
- 150 GOODFELLOW, WALTER, M.B.O.U.; c/o J. J. Mumford, Esq., The Poplars, Kettering. (June, 1897).
- GORTER, Madame; The Delta, Walmer, Kent. (Nov., 1901).
- GOW, J. BARNETT; 21, West Nile Street, Glasgow, and Ledcamerock, Bearsden, Glasgow. (Feb., 1906).
- GRABOWSKY, F., Director of the Zoological Gardens; Breslau, Germany. (June, 1905).
- GRAY, HENRY, M.R.C.V.S.; 23, Upper Phillimore Place, W. (June, 1906).
- GREGORY, AUBREY; Gopalichuck, Jheriah, E.I.R., India. (Nov., 1902).
- GREGORY, Mrs.; Melville, Parkstone, Dorset. (Dec., 1901).
- GRIFFITHS, M. E.; Temple Road, Stowmarket. (May, 1902).
- GRISCOM, LUDLOW; 21, Washington Square North, New York City, U.S.A. (April, 1905).
- GRÖNVOLD, HENRIK; 26, Albert Bridge Road, Battersea Park, S.W. (Nov., 1902).
- 160 GUILFORD, Miss H.; 23, Lenton Avenue, The Park, Nottingham. (March, 1903).
- GÜNNING, Dr. J. W. B., F.Z.S., Director of the Transvaal Museum and Zoological Gardens; Pretoria, South Africa. (Sept., 1906).
- GÜNTHER, ALBERT, M.A., M.D., Ph.D., F.R.S., F.Z.S., M.B.O.U.; 2, Lichfield Road, Kew Gardens. (Sept., 1902). (*Honorary Member*).
- GUNTHER, ROBERT L.; Park Wood, Englefield Green, Surrey. (August, 1904).

- GURNEY, JOHN HENRY, F.Z.S., M.B.O.U.; Keswick Hall, Norwich :
and Athenæum Club, Pall Mall, S.W. (Dec., 1904).
- HAAGNER, A. K., Hon. Sec. S. African Ornithological Union ;
Dynamite Factory, Moddersfontein, Transvaal. (Nov., 1905).
- HAMILTON, Madame ; Les Deux Parzes, Champéry, (Valaise), Switzer-
land. (Nov., 1902).
- HAMILTON, Miss ; 2, Upper Wimpole Street, W. (April, 1902).
- HARDING, W. A., F.Z.S.; Histon Manor, Cambridge. (Dec., 1903).
- HARDING, W.; The Duke of Edinburgh Hotel, 85 & 87, Kingston
Road, Wimbledon. (August, 1905).
- 170 HAREWOOD, The Countess of ; Harewood House, Leeds. (March, 1903).
- HARGREAVES, J. H.; Drinkstone Park, Bury St. Edmunds. (Jan.,
1905).
- HARPER, Miss ; 55, Waterloo Road, Bedford. (March, 1902).
- HARPER, EDWARD WILLIAM, F.Z.S., M.B.O.U.; 45, Water Street.
Georgetown, Demerara, Br. Guiana, S. America. (Feb., 1901).
- HARPER, FREDERICK WM.; East Cottingwood, Morpeth. (May, 1902).
- HARRISON, J. H.; 18, East Beach, Lytham. (Sept., 1906).
- HARTLEY, Mrs.; St. Helen's Lodge, Hastings. (April, 1897).
- HARVEY, The Hon. Lady ; Langley Park, Slough. (Oct., 1906).
- HAWKE, The Hon. MARY C.; Wighill Park, Tadcaster. (Nov., 1900).
- HAWKINS, L. W.; Estrilda, 206, Clive Road, West Dulwich, S.E.
(Jan., 1899).
- 180 HEMRLYK, FRANCIS JOSEPH, F.Z.S.; 4, Lloyd's Avenue, E.C.
(Dec., 1905).
- HEMSWORTH, The Rev. B., M.A., J.P.; Monk Fryston Hall, South
Milford, Yorks. (June, 1901).
- HEWITT, H. C.; Saham Mere, Watton, Norfolk. (Jan., 1905).
- HILL, Mrs. E. STAVLEY; Oxley Manor, Wolverhampton. (Oct., 1905).
- HINCKES, R. T.; Foxley, Hereford. (Feb., 1899).
- HINDLE, R. FRANKLIN; 34, Brunswick Road, Liverpool. (Sept., 1898).
- HOBSON, F. G.; Villa Delta, Beverley. (May, 1905).
- HOCKEN, Dr.; Dunedin, New Zealand. (Jan., 1904).
- HODGSON, The Hon. Mrs.; Clopton, Stratford-on-Avon. (March, 1903).
- HODGSON, RICHARD, Jun.; Molescroft, Beverley. (Feb., 1903).
- 190 HOLDEN, RALPH A.; 5, John Street, Bedford Row, London. (May,
1906).
- HOLT, HARDLEY-WILMOT BLOMFIELD; Ashurstwood House, East
Grinstead. (Dec., 1904).
- HOPKINSON, EMILIUS, D.S.O., M.A., M.B. Oxon.; 45, Sussex Square,
Brighton, and Gambia, West Africa. (October, 1906).
- HOPSON, FRED C.; Northbrook Street, Newbury. (March, 1897).
- HORSBRUGH, Capt. BOYD R., A. S. C.; Naval Hill, Bloemfontein,
O.R.C., S. Africa. (Jan., 1898).
- HORSBRUGH, C. B.; c/o Director, The Museum, (Box 413), Pretoria,
Transvaal. (June, 1905).
- HORTON, LEONARD W.; Hill House, Compton, Wolverhampton.
(Feb., 1902).

- HOUSDEN, JAMES B.; Brooklyn, Cator Road, Sydenham, S. E.
(Orig. Mem.).
- HOWARD, ROBERT JAMES, M.B.O.U.; Shear Bank, Blackburn.
(April, 1903).
- HOWMAM, Miss; Sherwood, 6, Essex Grove, Upper Norwood.
(March, 1897).
- 200 HOYLE, Mrs.; The Vicarage, Stoke Poges, Bucks. (Nov., 1904).
- HUBBARD, GEORGE; 112, Fenchurch Street, E.C. (Jan., 1905).
- HUGHES, Lady; Shelsley Grange, Worcester. (Nov., 1904).
- HUMPHREYS, RUSSELL; Southborough, Bickley, Kent. (April, 1896).
- HUNTERS, FRANK; 7, York Place, Edinburgh, and Knockhill, Ecclefechan. (Feb. 1906).
- HUSBAND, Miss; Clifton View, York. (Feb., 1896).
- INCHQUIN, The Lady; Dromoland Castle, Newmarket-on-Fergus, County Clare, Ireland. (Nov., 1897).
- INGLIS, CHARLES M.; Boghowni Factory, Laheria Serai P. O., Tirhoot State Railway, India. (Sept., 1902).
- INGRAM, COLLINGWOOD; The Bungalow, Westgate-on-Sea. (Oct., 1905).
- INGRAM, Sir WILLIAM, Bart.; 65, Cromwell Road, London, S. W.
(Sept., 1904).
- 210 INNES Bey, Dr. FRANCIS WALTER, M.B.O.U.; Curator, Zoological Museum, Government School of Medicine, Cairo, Egypt. (March, 1903).
- ISAAC, CHARLES; Craigmere, Egmont Road, Sutton, Surrey. (March, 1906).
- IVENS, Miss; Moss Bank, Cuckoo Road, Hanwell, Middlesex.
(August, 1903).
- JARDINE, Miss EMILY; Zungeru, Northern Nigeria, West Africa.
(Jan., 1903).
- JOHNSTONE, Mrs. E. J.; Burswood, Groombridge, Kent. (May, 1900).
- JONES, H.; 13, Commercial Road, Ipswich. (Oct., 1903).
- JONES, Major; East Wickham House, Welling, Kent. (Jan., 1906).
- KEMP, ROBERT; c/o Mrs. Warner, Long Sutton, near Langport, Somersetshire. (March, 1903).
- KERR, N.; Primrose Club, Park Place, London, W. (Oct., 1906).
- KESTERMANN, HERMANN; 3, Südstrasse, Greig-i-Vogtland, Germany.
(March, 1903).
- 220 KEYTEL, P. CASPER; Box 633, Cape Town, South Africa. (June, 1902).
- LANCASTER, JOHN; Overslade, near Rugby. (March, 1904).
- LANCASTER, Mrs. H. R.; 7, Victoria Terrace, Walsall. (Aug., 1897).
- LASCHELLS, The Hon. GERALD, F.Z.S., M.B.O.U.; The King's House, Lyndhurst. (Oct., 1896).
- LAWSON, Mrs. F. W.; Adel, Leeds. (Nov., 1903).
- LEE, Mrs. E. D.; Hartwell House, Aylesbury. (July, 1906).
- LENNIE, J. C.; Rose Park, Trinity Road, Edinburgh. (Orig. Mem.).*

- LEWIS, W. JARRETT ; Corstorphine, Ryde, I. of W. (Oct., 1904).
 LIDDLE, Capt. A. F. ; Curfew House, Thomas Street, Windsor.
 (June, 1906).
 LILFORD, The Lady ; Lilford Hall, Oundle, Northamptonshire. (Jan.
 1898).
 230 LITTLE, GEO., W., M.D. ; 47, Ridge Street, Glens Falls, N.Y., United
 States of America. (Oct., 1903).
 LLEWELYN, Sir JOHN T. DILLWYN, Bart., M.A., D.L., F.Z.S. ;
 Penlleryaer, Swansea. (May, 1903).
 LOCKYER, ALFRED ; Ashbourne, Selsden Road, Wanstead. (Dec., 1905).
 LODGE, GEORGE E., F.Z.S., M.B.O.U. ; The Studios, 5, Thurloe Square,
 S.W. (Aug., 1905).
 LOVELACE, The Countess of ; Wentworth House, Chelsea Embank-
 ment, London, S.W. (May, 1906).
 LOWE, SAMUEL ; Albert Cottage, Buxton Road, Mile End, Stockport.
 (Oct., 1902).
 LYON, Miss R. ; Harwood, Horsham. (Nov. 1894).

 MACCALL, Miss ; The Rest, Church Crookham, Fleet, R.S.O., Hants.
 (May, 1904 ; dormant).
 MARSHALL, Mrs. ; Ashley Warren, Walton-on-Thames. (April, 1906).
 MARSHALL, ARCHIBALD MCLEAN ; Bleaton Hallet, Blairgowrie, Perth-
 shire, N.B. (Jan., 1906).
 240 MARTIN, H. C. ; 178, Victoria Road, Old Charlton, Kent. (Jan., 1897).
 MARTORELLI, Dr. GIACINTO, M.B.O.U. etc. ; Collezione Turati,
 Museo Civico di Storia Naturale, Milan, Italy. (July, 1906).
 (*Honorary Member*).
 MEADK-WALDO, E. G. B., F.Z.S., M.B.O.U. ; Stonewall Park,
 Edenbridge, Kent. (Jan., 1895).
 MELLOR, Mrs. ; Fair Lawn, Lytham, Lancs. (March, 1904).
 MERRYLEES, Miss ; 16, Harley Street, Cavendish Square, W. (June,
 1904).
 MICHELL, Mrs. ; Crakelhall, Bedale. (Sept., 1898).
 MILLER, TINNISWOOD ; 27, Belgrave Road, S.W. (March, 1905).
 MILNE, PRESTON M. ; Calverley House, Calverley, near Leeds.
 (Feb., 1906).
 MITCHELL, HARRY ; The Duchy House, Harrogate. (Feb., 1904).
 MITCHELL, P. CHALMERS, M.A., D.Sc., F.R.S., Secretary to the
 Zoological Society of London ; 3, Hanover Square, W. (Aug., 1905).
 250 MOERSCHL, F. ; Imperial Hotel, Malvern. (June, 1895).
 MONTAGU, E. S., M.B.O.U. ; Trinity College, Cambridge, and 12, Ken-
 sington Palace Gardens. (May, 1905).
 MOORE, WM. FAWCETT ; Ballyanchor Poultry Farm, Lismore, co.
 Waterford. (Aug. 1903).
 MORGAN, Mrs. E. C. ; Birdsall Grange, York. (Jan. 1902).
 MORSE, D. S. ; Bank of Ireland, Mount Bellew, Ireland. (July, 1903).
 MORSEHEAD, Lady ; Forest Lodge, Binfield, Bracknell, Berks. (Dec.,
 1894).*

- MORTIMER, Mrs. ; Wigmore, Holmwood, Surrey. (Orig. Mem.).*
- MURRAY, JOHN ; 25, Glasgow Street, Ardrossan. (March, 1903).
- MYLAN, JAS. GEORGE. B.A., M.B. (Univ. Cal.) ; I.R.C.P. & L.R.C.S., (Ed.) &c., 90, Upper Hanover Street, Sheffield. (Dec., 1901).
- NEWALL, Miss V. F. ; Ellingham House, Cheltenham. (March, 1905).
- 260 NEWMAN, T. H., F.Z.S., M.B.O.U. ; Newlands, Harrowdene Road, Wembley, Middlesex. (*Hon. Business Secretary*). (May, 1900).
- NEWTON, ALFRED, M.A., F.R.S., F.L.S., F.Z.S., M.B.O.U., Professor of Zoology and Comparative Anatomy in the University of Cambridge ; Magdalene College, Cambridge. (Nov., 1901). (*Honorary Member*).
- NICOLL, MICHAEL, J., M.B.O.U. ; Zoological Gardens, Giza, Cairo, Egypt. (July, 1906).
- NICHOLSON, ALFRED E. ; 24, Shandwick Place, Edinburgh. (Oct. 1896).*
- NOBLE, Mrs. ; Park Place, Henley-on-Thames. (Oct., 1900).
- NORWOOD, ELLER ; 28, St. Stephen's Mansions, Smith Square, Westminster, S.W. (Aug., 1901).
- OAKEY, W. ; 34, High Street, Leicester. (March, 1896).*
- OATES, F. W. ; White House Farm, New Leeds, Leeds. (Oct., 1897).
- OBERHOLSER, HARRY C. ; 1349, Harvard Street N.W., Washington, D. C., United States of America. (Oct., 1903).
- ODLING, Mrs. ; Duxbury, Sturry, Canterbury. (Aug., 1905).
- 270 OGILVIE-GRANT, W. R., F.Z.S., M.B.O.U. ; British Museum (Nat. Hist.), Cromwell Road, S.W. (Dec., 1903).
- OGILVY, HENRY S. T. HAMILTON ; Biel, Prestonkirk, N.B. (March, 1900).
- OGLE, BERTRAM SAVILE, M.B.O.U. ; Steeple Aston, Oxford. (Dec., 1902).
- O'REILLY, NICHOLAS S. ; 9, Royal Crescent, Ramsgate. (Dec., 1894).
- OSBALDESTON, W. ; 3, Tithe Barn Street, Preston. (June, 1895).*
- OSTERHAN, J. ELIOTT, D. ; Bank House, Thame, Oxon. (April, 1903).
- PAGE, WESLEY T., F.Z.S. ; 6, Rylett Crescent, Shepherd's Bush, W. (May, 1897).
- PALMER, Mrs., G. W. ; Marlston House, near Newbury. (Oct., 1905).
- PAM, Capt. ALBERT, F.Z.S. ; 63, St. James Street, S.W. (Jan. 1906).
- PANTIN, CHARLES W. ; Heathdene, Vanbrugh Park Road East, Blackheath. (May, 1904).
- 280 PARKER, DUNCAN, J.P., ; Clopton Hall, Woolpit, Bury St. Edmunds. (June, 1903).
- PARKIN, THOMAS, M.A., F.R.G.S., F.Z.S., M.B.O.U. ; Fairseat, High Wickham, Hastings. (Oct., 1903).
- PEEL, Lady ; Potterton Hall, Barwick-in-Elmet, Leeds. (June, 1904).
- PEIR, P. ; Box 504, G.P.O., Sydney ; and 50, Bondi Road, Waverley, Sydney, N. S. Wales. (July, 1903).
- PENROSE, FRANK G., M.D., F.Z.S., M.B.O.U. ; Wick House, Downton, Salisbury. (Dec., 1903).

- PERCIVAL, WALTER GILBEY; El Damer, Soudan. (Feb., 1902).
- PERRHAU, Capt. G. A.; 2/4 Gurkha Rifles, Bakloh, Punjab, India. (Dec., 1903).
- PERRING, C. S. R.; Melic House, Waldegrave Road, Teddington. (Sept., 1895).
- PERRYMAN, C. W.; Bifrons, Farnborough, Hants. (March, 1902).
- PHILLIPPS, NORL, 21, Addison Gardens, Kensington, W. (Nov., 1901).
- 290 PHILLIPPS, REGINALD; 26, Cromwell Grove, West Kensington Park, W. (Orig. Mem.).*
- PHILLIPPS, Mrs.; 26, Cromwell Grove, West Kensington Park, W. (Orig. Mem.).
- PICARD, HUGH K.; 10, Sandwell Crescent, W. Hampstead, N.W. (March, 1902).
- PICKFORD, RANDOLPH JOHN; Job's Hill House, Crook, co. Durham. (Feb., 1903).
- POCOCK, R. I., F.Z.S.; Zoological Society's Gardens, Regent's Park, N.W. (Feb., 1904).
- PORTER, G. C.; 38, Mill Street, Bedford. (Dec., 1901).
- POWIS, The Earl of; 45, Berkeley Square, W.: and Powis Castle, Welshpool. (April, 1902).
- PRICE, ATHELSTAN, E., M.B.O.U.; 4, Mincing Lane, E.C. (August, 1902).
- PROCTOR, Major F. W., M.B.O.U.; Downfield, Maidenhead. (May, 1903).
- PYCRAFT, W. P.; A.I.S., M.B.O.U., &c.; British Museum (Nat. Hist.), Cromwell Road, S.W. (Nov., 1904).
- 300 RATHBORNE, HENRY B.; Dunsinea, Castleknock, co. Dublin. (May, 1901).
- RAWSON, Miss; Millhouse, Halifax. (Nov., 1903; dormant).
- REID, Mrs.; Funchal, Madeira. (Feb., 1895).
- REID, C. S.; 4, Howard Park Drive, Kilmarnock. (Dec., 1902).
- RENAUT, W. E., M.B.O.U.; 15, Grafton Square, Clapham, S.W. (April, 1897).
- RENSHAW, GRAHAM, M.B., F.Z.S.; Sale Bridge House, Sale, Manchester. (Feb., 1903).
- RICE, Captain G.; Glayquhat, Blairgowrie, N.B. (May, 1902).
- RICHARD, E.; Hotel Metropole, Brighton. (Orig. Mem.).
- RILEY, JOSEPH H.; U. S. National Museum, Washington, D.C., U.S.A. (June, 1906).
- RITCHIE, NORMAN; The Holmes, St. Boswell's, N.B. (Feb., 1903).
- 310 ROBERT, Madam; Hartland House, Sutton, Surrey. (June, 1906).
- ROBERTS, Mrs., M. Aust. O. U.; Beaumaris, Montpelier Street, Hobart, Tasmania. (June, 1903).
- ROBERTS, NORMAN B.; The Cottage, West Retford, Notts. (Feb., 1898).
- RODON, Major, G. S.; Dharwar, Bombay Presidency, India. (Mar. 1906).
- ROGERSON, A.; Fleurville, Ashford Road, Cheltenham. (Dec., 1902).

- ROTCHE, Mrs.; 3, Beach Lawn, Waterloo, near Liverpool. (June, 1897).
- ROTHERA, CHAS. L., B.A.; Hazelwood, Forest Grove, Nottingham. (July, 1895).
- ROTMSCHILD, The Hon. L. WALTER, M.P., D.Sc., F.Z.S., M.B.O.U.; The Museum, Tring, Herts. (Jan., 1900).
- RUDKIN, F. H.; Belton, Uppingham. (Oct., 1902).
- RYCROFT, MARK E.; 8, Park Street, Wakefield. (Jan., 1902).
- 320 ST. QUINTIN, WILLIAM HERBERT, F.Z.S., M.B.O.U.; Scampston Hall, Rillington, York. (Orig. Mem.).
- ST. QUINTIN, Miss; Scampston Hall, Rillington, York. (Jan., 1902).
- SALTER, ALBERT J.; Thame, Oxon. (March, 1902).
- SAUNDERS, HOWARD, F.L.S., F.Z.S., &c., &c.; 7, Radnor Place, Hyde Park, W. (Feb. 1906).
- SAVAGE, A.; 3, Rue Bihorel, Bihorel, Rouen, Seine Inférieure, France. (April, 1895).
- SCHARFF, R. F., Ph.D., Secretary to the Royal Zoological Society of Ireland; Phoenix Park, Dublin. (Oct., 1905).
- SCHERRER, HENRY, F.Z.S., M.B.O.U.; 9, Cavendish Road, Harringay, N. (Dec., 1902).
- SCHWEDER, PAUL E.; Courtlands, Goring—Worthing, Sussex. (Nov., 1902).
- SCLATER, PHILIP LUTLEY, M.A., D.Sc., F.R.S., M.B.O.U.; Odiham Priory, Winchfield, Hants. (Sept., 1902). (*Honorary Member*).
- SCLATER, W. L., M.A., F.Z.S., 1511, Wood Avenue, Colorado Springs, Colorado, U.S.A. (June, 1900).
- 330 SCOTT, Professor WILLIAM F. D., Worthington Society, Shawnee-on-Delaware, Pennsylvania, U.S.A. (August, 1904).
- SERGEANT, JOHN; 4, Church Road, Birkdale, Southport. (Orig. Mem.).*
- SETH-SMITH, DAVID, F.Z.S., M.B.O.U., (*Hon. Editor*); Glengarry, 14, Canning Road, Addiscombe, Surrey. (Dec., 1894).
- SETH-SMITH, IRENE M., B.A., M.B.O.U.; Survey Dept., Entebbe, Uganda. (July, 1902).
- SETH-SMITH, Mrs. W., Alleyne, Caterham Valley, Surrey. (Sept., 1904).
- SHARP, Miss; Spring Gardens, Ringwood, Hants. (Orig. Mem.).
- SHARPE, RICHARD BOWDLER, LL.D., F.L.S., F.Z.S., M.B.O.U., Assistant Keeper, Zoological Department, British Museum (Natural History); South Kensington, S.W. (Sept., 1902). (*Hon. Member*).
- SHELLEY, Captain GEORGE ERNEST, F.Z.S., F.R.G.S., M.B.O.U.; 39, Egerton Gardens, South Kensington, S.W. (August, 1903).
- SHEPHERD, Miss B.; The Den, Walton-on-Thames. (April, 1901).
- SHERBROOKE, Mrs. P.; Douthwaite Dale, Kirbymoorside, Yorks. (March, 1897).
- 340 SICH, HERBERT LEONARD; c/o Rev. F. Watson, Bepton Rectory, Midhurst, Sussex; and Corney House, Chiswick, Middlesex. (Feb., 1902).
- SILVER, ALLEN; Long Melford, Suffolk. (Aug. 1904).
- SIMPSON, ARCHIBALD; 98, Tempest Road, Beeston Hill, Leeds. (Feb., 1901).

- SLATER, ARTHUR A. ; Prescot Road, St. Helen's. (Nov., 1894).
- SMITH, C. BARNBY ; Woodlands, Retford. (August, 1906).
- SMITH, H. B. ; Grangefield, Park Road South, Birkenhead. (June, 1895).*
- SONDES, The Earl, F.Z.S. ; Lees Court, Faversham, Kent. (Aug., 1905).
- SOPP, Mrs., W. M. ; 104, Liverpool Road, Birkdale, Southport. (April, 1904).
- SORNBORGER, J. D. ; Ipswich, Mass., U.S.A. (Oct., 1905).
- SOUTHESK, The Countess of ; Crimonmogate, Lomay, Aberdeenshire. (Feb., 1901).
- 350 SOUTHPORT CORPORATION : W. JAMES HATHAWAY, Curator ; Hesketh Park, Southport. (Jan., 1904).
- SPEED, HEDLEY ; 12, Victoria Park, Bangor, Wales. (Nov., 1900).
- SPICER, The Lady MARGARET ; Spye Park, Chippenham, Wilts. (March, 1903).
- STANSFELD, Captain JOHN ; Dunninald, Montrose, N.B. (Dec., 1896).
- STANYFORTH Mrs. ; Kirk Hamerton Hall, York. (Nov., 1897).
- STARK, W. P. ; Hillstead, Basingstoke, (August, 1903).
- STIRLING, Mrs. CHARLES ; Old Newton House, Doune. (Sept., 1904).
- STOCKPORT CORPORATION : FRANK HARRIS, F.R.H.S., Superintendent ; Vernon Park, Stockport. (Oct., 1902).
- STURTON-JOHNSON, Miss ; Orotava House, Ore, Hastings. (May, 1897).
- SUGGITT, ROBERT ; Suggitt's Lane, Cleethorpes, Grimsby. (Dec., 1903).
- 360 SUTCLIFFE, ALBERT ; Field House, Grimsby. (Feb., 1906).
- SUTTON, Lady ; Benham Park, Newbury. (Dec., 1901).
- SWAILES, GEORGE C. ; Beverley, Yorks. (June, 1905).
- SWAN, J. A. ; 87, Lower Kennington Lane, S.E. (June, 1902).
- SWAYSLAND, WALTER ; 47, Queen's Road, Brighton. (Orig. Mem.)*
- SWIFT, DONALD ; 58, Avenue Road, Crouch End, N. (Dec., 1898).
- SWINFEN-BROWN, Mrs. ; Swinfen Hall, Lichfield. (Feb., 1898).
- TANNER, Dr. FRANK L. ; Vauvert House, Guernsey. (Jan., 1904).
- TANNER, Mrs. SLINGSBY ; 62, Cheyne Court, Chelsea, S.W. (Oct., 1906).
- TERRY, Major HORACE A., M.B.O.U. (late Oxfordshire Light Infantry) ; The Lodge, Upper Halliford, Shepperton. (Oct., 1902).
- 370 TESCHEMAKER, W. E., B.A. ; Ringmore, Teignmouth, Devon. (May, 1904).
- THOM, A. A. ; Nightingales, Adlington (Lancs.), Chorley. (June, 1895).*
- THOMAS, HENRY ; The Vineries, Boroughbridge, York. (Jan., 1895).
- THOMAS, Miss F. G. F. ; Hurworth Manor, Darlington. (March, 1899).
- THOMAS, Mrs. W. F. ; Bishopshalt, Hillingdon, Uxbridge. (Oct., 1904).
- THOMASSET, BERNARD C. ; Hawkenbury, Staplehurst, Kent. (July, 1896).
- THOMASSET, H. P. ; Cascade Estate, Mahé, Seychelles Islands. (1906).

- THORNILEY, PERCY WRIGHT; Shooter's Hill, Wem., Shrewsbury. (Feb., 1902).
- THORPE, CHARLES; Selborne, Springfield Road, Wallington, Surrey. (Dec., 1901).
- THORPE, F. C.; Eden Villa, 300, Hedon, Hull. (Jan., 1902).
- 380 THURSBY, Lady; Ormerod House, Burnley. (June, 1905).*
- TOMES, W., J.P.; Glenmoor, 31, Billing Road, Northampton. (Dec., 1902).
- TOPHAM, WILLIAM; The Hill, Spondon, Derby. (Feb., 1895: dormant 1902-5).*
- TOWNSEND, STANLEY M.; 3, Swift Street, Fulham, S.W. (Sept., 1898).
- TOYE, Mrs.; Stanhope, Bideford, N. Devon. (Feb., 1897).
- TRESTRAIL, Major ALFRED B., F.R.G.S.; Southdale, Clevedon. (Sept., 1903).
- TRIVOR-BATY, AUBYN B. R., M.A., F.I.S. etc.; Broxton, Chilbolton, Stockbridge, Hants. (July, 1898).
- TURNER, THOMAS, J.P.; Cullompton, Devon. (Dec., 1895).
- TWEEDIE, Capt. W., 93rd Highlanders; c/o Messrs. Cox and Co., 16, Charing Cross, W.C. (April, 1903).
- VALENTINE, ERNEST; 7, Highfield, Workington. (May, 1899).
- 390 VARDON, The Rev. S. A.; Langton Vicarage, Tunbridge Wells. (July, 1905).
- VERE, The Very Rev. Canon; St. Patrick's Presbytery, 21A, Soho Square, London, W. (Sept., 1903).
- VERRALL, CLAUDE; Leyton Lodge, Denmark Road, Carshalton. (May, 1897).
- VILLIERS, Mrs.; The Shielding, Ayr, N.B. (August, 1906).
- VIVIAN, Mrs.; c/o M. C. Tait, 23, Kidderpore Avenue, Hampstead, N.W. (March, 1903).
- WADDELL, Miss PEDDIE; 4, Great Stuart Street, Edinburgh, N.B. (Feb., 1903).
- WALKER, Miss; Hanley Lodge, Corstorphine, Midlothian. (Jan., 1903).
- WALKER, Miss H. K. O.; Chesham, Bury, Lancs. (Feb., 1895).
- WALLOP, The Hon. FREDERIC; 48, Eaton Terrace, S.W. (Feb., 1902).
- WARDE, The Lady HARRIET; Knotley Hall, Tunbridge. (Aug., 1893).
- 400 WATERHOUSE, Mrs. D.; 6, Esplanade, Scarborough. (Feb., 1903).
- WATSON, JOHN; Wentbridge, Pontefract. (Sept., 1900).
- WATSON, JOHN A. S.; Ellangowan, Caterham Valley, Surrey. (Dec., 1905).
- WATSON, S.; 37, Tithebarn Street, Preston. (Feb., 1906).*
- WEBBER, Mrs. OSWALD; Burwood, Pinhoe, Exeter. (August, 1903).
- WEST, COLIN; The Grange, South Norwood Park. (Jan., 1906).
- WEST, Miss E. E.; The Homestead, Hawthorne Road, Bickley Park, Kent. (April, 1898).*

- WHITAKER, JOSEPH I. S., F.Z.S., M.B.O.U.: Malfitano, Palermo, Sicily. (August, 1903).
- WHITEHEAD, Mrs. HENRY; Haslem Hey, Bury, Lancs. (March, 1902).
- WIGLELSWORTH, JOSEPH, M.D., M.B.O.U.; Rainhill, Lancashire. (Oct., 1903).
- 410 WIGRAM, Miss FLORENCE E.; Chesnut Lodge, Cobham, Surrey. (July, 1903).
- WIGRAM, Miss MADELINE; King's Gatchell, Taunton. (Sept., 1903).
- WILDE, Miss M.; Little Gaddesden, Berkhamstead. (Dec., 1896).
- WILLATT, Miss MABEL; The Lodge, Draycott, Derby. (April, 1903).
- WILLIAMS, Mrs. C. H.; 49, Okelhampton Road, St. Thomas, Exeter. (May, 1902).
- WILLIAMS, C. J.; Government Offices, Bloemfontein, O. R. C. (Oct., 1906).
- WILLIAMS, Mrs. HOWARD; Oatlands, Sundridge Avenue, Bromley, Kent. (April, 1902).
- WILLIAMS, SYDNEY, Jun.; Holland Lodge, 275, Fore Street, Edmonton, N. (Feb., 1905).
- WILMOT, The Rev. RICHARD H.; Poulton Vicarage, Fairford. (Dec., 1902).
- WILSON, The Rev. C. W.; St. James Vicarage, Holloway. (June, 1904).
- 420 WILSON, MAURICE A., M.D.; Kirkby Overblow, Fannal S. O., York. (Oct., 1905).
- WILSON, T. NEEDHAM; Oak Lodge, Bitterne, near Southampton. (Dec., 1901).
- WILTON, The Countess of; The Hatch, near Windsor. (Oct., 1905).
- WINCHILSEA and NOTTINGHAM, The Countess of; Harlech, Merioneth. (April, 1903).
- WOLFE, Miss GEORGINA; S. John's, 57, Granada Road, E. Southsea. (August, 1904).
- WOODS, Miss; North Grimstone House, York. (May, 1902).
- WORKMAN, WM. HUGHES, M.B.O.U.; Lismore, Windsor, Belfast. (May, 1903).
- WORMALD, H.; The Heath, Dereham, Norfolk. (Dec., 1904).
- YEWDALE, P.; Brookfield, Calverley, Leeds. (June, 1903).
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RULES OF THE AVICULTURAL SOCIETY.

As amended August 1905.

1.—The name of the Society shall be THE AVICULTURAL SOCIETY, and its objects shall be the study of Foreign and British Birds in freedom and in captivity. Poultry, Pigeons, and Canaries shall be outside the scope of the Society. The year of the Society, with that of each volume of the Society's Magazine, which shall be known as *The Avicultural Magazine*, shall commence with the month of November and end on the 31st of October following.

2.—The Avicultural Society shall consist of Ordinary and Honorary Members; and the latter shall be restricted in number to six, and be elected by the Council.

3.—The Officers of the Society shall be elected, annually if necessary, by members of the Council in manner hereinafter provided, and shall consist of a President, one or more Vice-Presidents, a Business Secretary, a Correspondence Secretary, an Editor, a Treasurer, an Auditor, a Scrutineer, and a Council of Fifteen Members. The Secretaries, Editor, and Treasurer, shall be *ex officio* Members of the Council.

4.—New Members shall be proposed in writing; and the name and address of every person thus proposed, with the name of the Member proposing him, shall be published in the next issue of the Magazine. Unless the candidate shall, within two weeks after the publication of his name in the Magazine, be objected to by at least two Members, he shall be deemed to be duly elected. If five members shall lodge with the Business Secretary objections to any candidate he shall not be elected, but the signatures to the signed objections must be verified by the Scrutineer. If two or more members (but less than five) shall object to any candidate, the Secretary shall announce in the next number of the Magazine that such objections have been lodged (but shall not disclose the names of the objectors), and shall request the Members to vote upon the question of the election of such candidate. Members shall record their votes in sealed letters addressed to the Scrutineer, and a candidate shall not be elected unless two-thirds of the votes recorded be in his favour; nor shall a candidate be elected if five or more votes be recorded against his election.

5.—Each Member shall pay an annual subscription of 10/-, to be due and payable in advance on the 1st of November in each year. New Members shall pay, in addition, an entrance fee of 10/6; and, on payment of their entrance fee and subscription, they shall be entitled to receive all the numbers of the Society's Magazine for the current year.

6.—Members intending to resign their membership at the end of the current year of the Society are expected to give notice to the Business Secretary before the 1st of October, so that their names may not be included in the "List of Members," which shall be published annually in our November number of the Magazine.

7.—The Magazine of the Society shall be issued on or about the first day of every month,* and forwarded, post free, *to all the Members who shall have paid their subscription for the year; but no Magazine shall be sent or delivered to any Member until the annual subscription shall have reached the hands of the Business Secretary.* Members whose subscriptions shall not have been paid as above by the first day in September in any year shall cease to be Members of the Society, and shall not be re-admitted until a fresh entrance fee, as well as the annual subscription, shall have been paid.

8.—The Secretaries, Editor, and Treasurer shall be elected for a term of five years, and, should a vacancy occur, it may be temporarily filled up by the Executive Committee (see Rule 10). At the expiration of the term of five years in every case, it shall be competent for the Council to nominate the same officer, or another Member, for a further term of five years, unless a second candidate be proposed by not less than twenty-five members of at least two years standing, as set forth below.

In the September number of the Magazine preceding the retirement from office of the Secretaries, Editor, or Treasurer, the Council shall publish the names of those gentlemen whom they have nominated to fill the vacancies thus created; and these gentlemen shall be deemed duly elected unless another candidate or candidates be proposed by not less than fifteen members of at least two years standing. Such proposal, duly seconded and containing the written consent of the nominee to serve if elected, in the capacity for which he is proposed, must reach the Business Secretary on or before the 15th of September.

The Council shall also publish yearly in the September number of the Magazine the names of those gentlemen nominated by them for the posts of Auditor and Scrutineer respectively.

9.—The Members of the Council shall retire by rotation, two at the end of each year of the Society (unless a vacancy or vacancies shall occur otherwise) and two other Members of the Society shall be recommended by the Council to take the place of those retiring. The names of the two members recommended shall be printed in the September number of *The Avicultural Magazine*. Should the Council's selection be objected to by fifteen or more members, these shall have power to put forward two other candidates whose names, together with the signatures of not less than fifteen Members proposing them must reach the Hon. Business Secretary

* Owing to the extra pressure of work, the October and November numbers are liable to be late.

by the 15th of September. The names of the four candidates will then be printed on a voting paper and sent to each member with the October number of the Magazine, and the result of the voting published in the November issue. Should no alternative candidates be put forward, in the manner and by the date above specified, the two candidates recommended by the Council shall be deemed to have been duly elected. In the event of an equality of votes the President shall have a casting vote.

10.—Immediately after the election of the Council, that body shall proceed to elect three from its members (*ex officio* members not being eligible). These three, together with the Secretaries and Editor, shall form a Committee known as the Executive Committee. Members of the Council shall be asked every year (whether there has been an election of that body or not) if they wish to stand for the Executive, and in any year when the number of candidates exceeds three there shall be an election of the Executive.

The duties of the Executive Committee shall be as follows:

- (i.) To sanction all payments to be made on behalf of the Society;
- (ii.) In the event of the resignation of any of the officers during the Society's year, to temporarily fill the vacancy until the end of the year. In the case of the office being one which is held for more than one year (*e. g.* Secretaries, Editor, or Treasurer) the appointment shall be confirmed by the Council at its next meeting;
- (iii.) To act for the Council in the decision of any other matters that may arise in connection with the business of the Society.

The decision of any matter by the Executive to be settled by a simple majority (five to form a quorum). In the event of a tie on any question, such question shall be forthwith submitted by letter to the Council for their decision.

The Executive shall not have power

- (i.) To add to or alter the Rules;
- (ii.) To expel any member;
- (iii.) To re-elect the Secretaries, Editor, or Treasurer for a second term of office.

It shall not be lawful for the Treasurer to pay any account unless such account be duly initialed by the Executive.

It shall be lawful for the Business Secretary or Editor to pledge the Society's credit for a sum not exceeding £15.

Should a member wish any matter to be brought before the Council direct, such matter should be sent to the Business Secretary with a letter stating that it is to be brought before the Council at their next meeting: otherwise communications will in the first place be brought before the Executive.

A decision of a majority of the Council, or of a majority of the

Executive endorsed by the Council, shall be final and conclusive in all matters.

11.—The Editor shall have an absolute discretion as to what matter shall be published in the Magazine (subject to the control of the Executive Committee). The business Secretary and Editor shall respectively refer all matters of doubt and difficulty to the Executive Committee.

12.—The Council (but not a Committee of the Council) shall have power to alter and add to the Rules, from time to time, in any manner they may think fit. Five to form a quorum at any meeting of the Council.

13.—The Council shall have power to expel any Member from the Society at any time without assigning any reason.

14.—Neither the office of Scrutineer nor that of Auditor shall be held for two consecutive years by the same person.

15.—The Scrutineer shall not reveal to any person how any Member shall have voted.



THE SOCIETY'S MEDAL.

RULES.

The Medal may be awarded, at the discretion of the Committee, to any Member who shall succeed in breeding, in the United Kingdom, any species of bird which shall not be known to have been previously bred in captivity in Great Britain or Ireland. Any Member wishing to obtain the Medal must send a detailed account for publication in the Magazine within about eight weeks from the date of the hatching of the young, and furnish such evidence of the facts as the Executive Committee may require. The Medal will be awarded only in cases where the young shall live to be old enough to feed themselves, and to be wholly independent of their parents.

The account of the breeding must be reasonably full so as to afford instruction to our Members, and should describe the plumage of the young, and *be of value as a permanent record of the nesting and general habits of the species*. These points will have great weight when the question of awarding the Medal is under consideration.

The parents of the young must be the *bonâ fide* property of the breeder. Any evasion of this rule, in any form whatever, will not only disqualify the breeder from any claim to a Medal in that particular instance, but will seriously prejudice any other claims he or she may subsequently advance for the breeding of the same or any other species.

In every case the decision of the Committee shall be final.

The Medal will be forwarded to each Member as soon after it shall have been awarded as circumstances will permit.

The Medal is struck in bronze (but the Committee reserve the right to issue it in *silver* in very special cases), and measures $2\frac{1}{2}$ inches in diameter. It bears on the obverse a representation of two birds with a nest containing eggs, and the words "The Avicultural Society—Founded 1894." On the reverse is the following inscription: "Awarded to (*name of donee*) for rearing young of (*name of species*), a species not previously bred in captivity in the United Kingdom."

Members to whom Medals have been awarded.

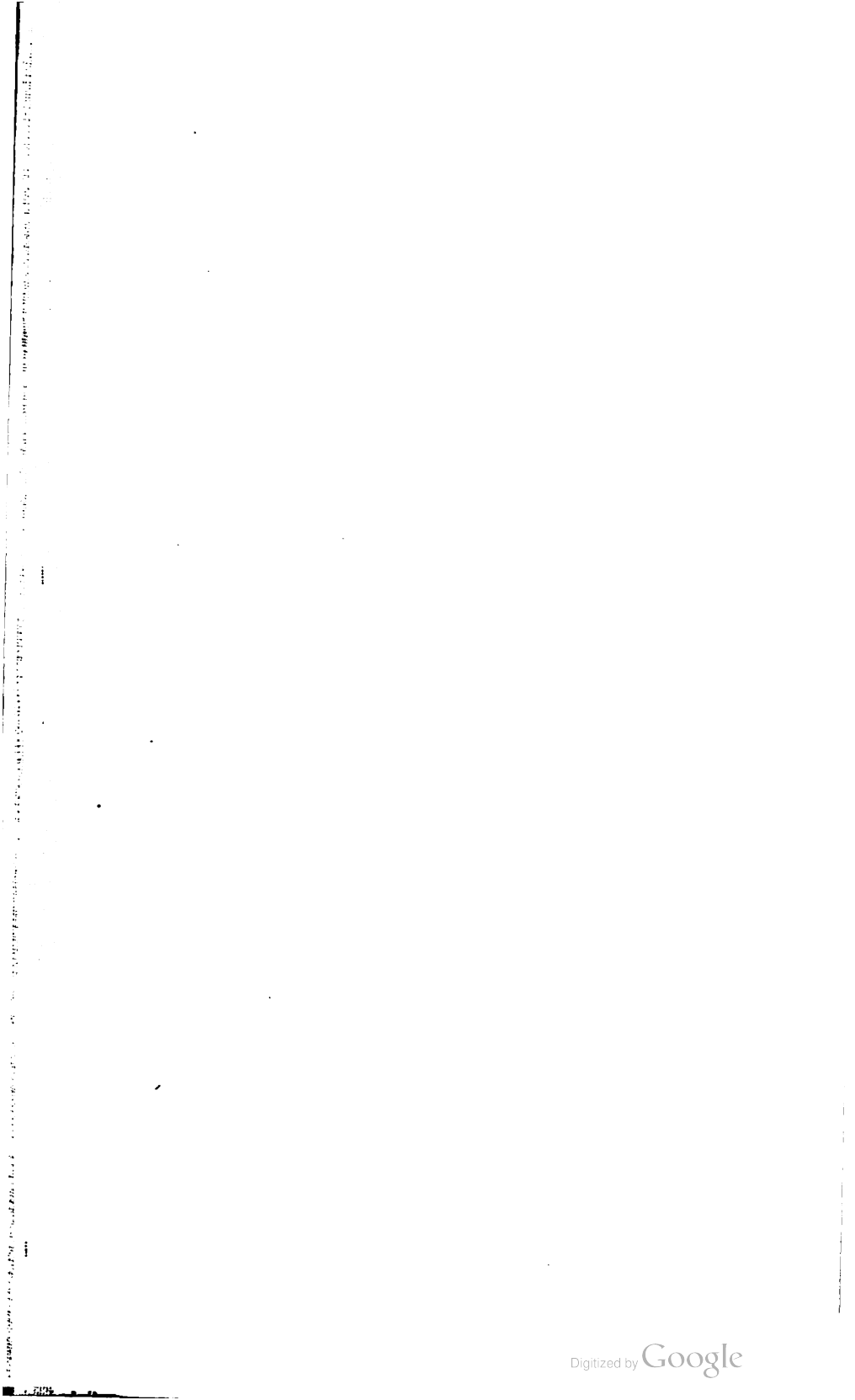
For a list of the Members to whom Medals were awarded during the First Series see Vol. II. (*New Series*), p. 18.

NEW SERIES.

Vol. I., p. 317. Mr. D. SETH-SMITH, for breeding the Greater Button-Quail, *Turnix tanki*, in 1903.

- Vol. I., p. 366. Mr. I. M. SETH-SMITH, for Breeding the Rain - Quail, *Coturnix coromandelica*, in 1903.
- p. 393. Miss R. ALDERSON, for breeding the White-fronted Dove, *Leptoptila jamaicensis*, in 1903.
- p. 400. Mr. W. H. ST. QUINTIN, for breeding the Ruff, *Pavoncella pugnax*, in 1903.
- Vol. II., pp. 211 & 263. Mr. D. SETH-SMITH, for breeding the Brush Bronzewing Pigeon, *Phaps elegans*, in 1904.
- p. 270. Miss R. ALDERSON, for breeding the Rufous Dove, *Leptoptila reichenbachii*, in 1904.
- p. 278. Mr. D. SETH-SMITH, for breeding the Scaly Dove, *Scardafella squamosa*, in 1904.
- p. 285. Mr. D. SETH-SMITH, for breeding the Tataupa Tinamou, *Crypturus tataupa*, in 1904.
- p. 339. Dr. ALBERT GÜNTHER, for breeding the Red-backed Shrike, *Lanius collurio*, in 1904.
- p. 353. Mr. B. FASKY, for breeding the Yellow-rumped Parrakeet, *Platycercus flaveolus*, in 1904.
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QUAILS OF THE GENUS COTURNIX.

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| 1. <i>Coturnix coturnix</i> . | 3. <i>C. japonica</i> . | 5. <i>C. delegorguei</i> . |
| 2. <i>C. capensis</i> . | 4. <i>C. coromandelica</i> . | 6. <i>C. pectoralis</i> . |

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SOME NOTES ON THE QUAILS OF THE GENUS *COTURNIX*.

By D. SETH-SMITH, F.Z.S., M.B.O.U.

The genus *Coturnix*, comprising the true Quails, consists of but seven species or, if we consider the Cape form to be but a subspecies, six species only, one of which, *C. novæ-zealandiæ* is now extinct or on the verge of extinction.

The species are as follows:

1. *Coturnix coturnix*, the common Migratory Quail which ranges over the greater part of Europe, Africa and Asia.
2. *C. capensis*, the Cape Quail, inhabiting South Africa, Madagascar etc.
3. *C. japonica*, the Japanese Quail, inhabiting Japan, South-East Mongolia and China.
4. *C. coromandelica*, the Rain-Quail, inhabiting the greater part of the Indian Peninsula.
5. *C. delegorguei*, the Harlequin or Delegorgue's Quail, inhabiting Central and South Africa.
6. *C. pectoralis*, the Australian Stubble Quail, confined to Australia and Tasmania.
7. *C. novæ-zealandiæ*, the New Zealand Quail, now said to be extinct.

With the exception of *C. japonica* and, of course, *C. novæ-zealandiæ* I have kept all of the species of *Coturnix* in my aviary, and have reared young from three of them, so I propose to give some notes on these birds from observations made from my living examples.

In the first place it may be well to point out where the members of this genus chiefly differ from those of such nearly-allied genera as *Synæcus* (Swamp Quails) and *Excalfactoria* (Painted Quails). In a very able paper on the genus *Coturnix*, published in the *Annals and Magazine of Natural History* (1892, p. 167), Mr. Ogilvie-Grant writes "The genus *Synæcus* appears to be very doubtfully distinct from *Coturnix*; so far as I can see, the only tangible character by which the two can be distinguished is found in the axillaries, which are shorter and greyer in the former. I think it highly probable that *Synæcus* will have to be merged in *Coturnix*." Thus, so far as cabinet ornithology is concerned, there is practically nothing by which to separate the two genera. They are however perfectly distinct in life. In the first place the appearance of the Swamp Quails is quite different from that of the true Quails, they appear to be much shorter on the legs than the latter, but run much faster. They are much more like miniature Partridges than like Quails. But the most important point in which the two genera differ is in their breeding habits. Both *Synæcus* and *Excalfactoria* are strictly monogamous, and both sexes brood the young, whereas *Coturnix* is semi-polygamous, by which I mean that, although a male will pair with only one female at a time, and remain true to her until incubation commences, he will promptly leave her when this period arrives and seek another mate. If the birds are in an enclosure where there is no other hen quail, there is a danger of the cock bullying the hen and perhaps driving her off her nest. When the young are hatched the cock *Coturnix* does not attempt to brood them, in fact if he approaches he is promptly driven off by the hen; or he may prove aggressive and drive her from her young which, without their mother's warmth, promptly die.

To return to the species of *Coturnix* in their proper order: *Coturnix coturnix*. I have had little experience in keeping the common Migratory Quail. A pair spent last winter and the early spring in my aviary and I found them very wild and, I think, the least interesting quails I have kept and, as I had not room for them when the nesting season approached, they were despatched to the Zoo. This species would doubtless breed in captivity without trouble, providing they had a fair-sized patch

of rough grass and other shelter such as low bushes or brush-wood, but there are other quails whose habits are practically similar but which are tamer and more beautiful, so that *C. coturnix* seemed to me to be hardly worth troubling about as my space was limited.

Figure I. on the accompanying plate represents a typical male example of *C. coturnix*, but this species is very subject to variation, and many European specimens have the cheeks almost as reddish in colour as the form which is found in South Africa and has been separated as *C. capensis* or *C. africana*. Mr. Frank Finn tells me that in India the quails seem to be very true to type, and he has never seen one there with the reddish cheeks.

Coturnix capensis. The Cape Quail (see plate, fig. II.) is a resident form and differs from *C. coturnix* only in the red colouring of the cheeks and reddish tinge on other parts of the body. Mr. Ogilvie-Grant considers it entitled to sub-specific rank only, and states that it interbreeds freely with the Common Quail. Mr. W. L. Sclater, who follows Reichenow in using the synonym *africana* for this quail, states that all of the specimens he has come across from South Africa are undoubtedly referable to the red-cheeked form. The pair of *C. capensis* which lived some months in my aviary were sent with the pair of *C. coturnix* to the Zoological Gardens as I had no room for them during the breeding season. I therefore had no opportunity to study the nesting habits of this form. My pair were very wild like the Common Quails.

Coturnix japonica. The Japanese Quail (see plate, fig. III.) is said to be a good species, but it is very closely allied to *C. coturnix* with which it is said to interbreed freely in the wild state. From an examination of the series of specimens in the British Museum I should be very much inclined to call this also a sub-species of *C. coturnix*; but there is one character which Mr. Ogilvie-Grant has pointed out and illustrated (*Ann. & Mag. Nat. Hist.* (6), X. p. 171) which is perhaps sufficient to separate it specifically. In the female the feathers of the chin and throat are elongated and pointed as in none of the other species of the genus. Przevalsky says that it is easily distinguished from *C. coturnix* by its voice. "From the end of March to the middle of

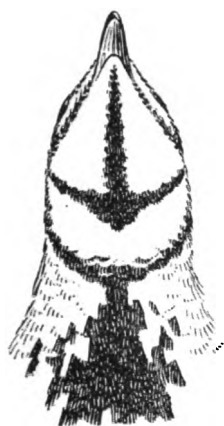
summer the call-note of the males can be heard daily, consisting of some deep hollow sounds several times repeated in quick succession." (Rowley's *Orn. Misc.*, II., p. 424).

Coturnix coromandelica. The Rain-Quail (fig. IV.) is somewhat smaller than the species above referred to and absolutely distinct, its nearest ally being *C. delegorguei* of Africa. The female however is much like the female of the Common Quail only smaller. In fact in all of the true quails the females are very much alike; plain little brown birds without any conspicuous markings, that of *C. delegorguei* being the most distinct.

The Rain-Quail is not very often imported, but it is a very charming bird for a well-turfed aviary, and although very wild when first received, soon gets tame, and breeds quite freely. The hen generally selects for her nest a spot beneath a tuft of grass, or in the midst of a heap of hay and rubbish. The hen is an excellent sitter and her plumage harmonizes wonderfully with her surroundings. The eggs, as in the other species of this genus, vary considerably, but the usual ground-colour is buff or stone-colour which is heavily blotched and spotted with dark brown. Measurement in inches 1.10 x .85. In my aviary the usual clutch has been six or seven, but nine is no uncommon number for these quails. Incubation is completed in from *sixteen to eighteen* days, the period varying slightly according to the temperature of the weather. Here I may remark that it is not always easy to determine the exact period of incubation as the sitting bird does not leave the nest until some hours after the chicks are actually hatched. A hen Rain-Quail which commenced to sit early in the day of July 12th left the nest with her brood on the morning of the 29th, which would apparently fix the period of incubation at 17½ days, but it is probable that she actually hatched late on the previous day or during the night. As a rule two broods are reared during the year, the first in May or June, and the second in July or August. The chicks when first hatched, are covered with a thick fluffy down, the head and underparts being bright yellowish buff-colour, two stripes of the same colour passing down the back. The centre stripe down the back and two

stripes passing down the back of the head are dark brown, the sides of the body being suffused with this colour. The markings of the young of the true quails are practically the same in all of the species, though the colour differs somewhat.

At the conclusion of these notes I propose to explain the method I have adopted for the rearing of the young of this and other species of quails.



Coturnix coromandelica.



C. delegorguei.

DIAGRAM SHEWING THROAT - MARKINGS.

Coturnix delegorguei (fig. V.). The Harlequin or Delegorgue's Quail is the rarest, the most beautiful and the tamest, so far as my experience goes, of the true quails. In size it is about equal to the Rain-Quail but the male differs from this in having a much broader black patch on the breast, and the flanks deep chestnut brown. It is an exceedingly handsome species, but one that is very rarely imported. The Zoological Society appear to have received their first example in July, 1869,* another in 1873, others in 1883 and 1884, since which the species appears to have been unrepresented in the Society's collection. In the year 1886 others were imported, for Mr. R. Phillipps informs me that one London dealer had fully eighteen living specimens, and he purchased a pair, and an odd female the following spring. Between June 7th and June 22nd, 1887, eight eggs were laid in

* In the *List of the Vertebrated Animals* this species is entered under the synonym *C. histrionica*.

Mr. Phillipps' aviary, but the hen did not sit. In 1889 Mr. Phillipps secured another cock bird, presumably a survivor of the importation of 1886. He writes me "they were very tame nice birds and I liked them very much. They would breed freely and easily if given fair play."

In the autumn of last year Mr. Thorpe, the well-known dealer at Hull, imported a few examples of this species, and I secured a cock and two hens. They spent the winter in a warm aviary, and were transferred to the larger outer aviary in April. On the 23rd of May one of the hens commenced to sit on eleven eggs. The nest was made in some hay that had been thrown down in a corner for the other birds in the aviary to build with. The sitting bird would carefully draw the hay entirely over her so that she was quite invisible. On June 8th she left the nest with eight chicks—incubation having lasted *sixteen* days. I did not expect the bird to hatch so soon and was away from home on the eventful day, not returning until late in the evening. The next morning I found the hen with six chicks only, and subsequently discovered that she had led her brood into an adjoining compartment of the aviary from which she had returned with six only, the other two being unable to climb over a wooden step separating the two compartments. This shows the importance of being on the spot when any young ground birds are hatched. Had I been at home that day I should have reared a brood of eight young Harlequins; as it was I had to be content with six. They were perfectly easy to rear in the way I shall presently describe.

On July 4th the same hen commenced to sit on a second clutch of seven eggs of which she hatched six on the 19th, all of which were reared.

The young quails were very precocious in their development as will be seen from the following dates, which refer to the first brood.

- June 8. Hatched.
- „ 18. Wing-feathers well grown, able to fly well.
- July 2. Young males showing white face-markings.
- „ 7. Rapidly assuming adult plumage.
- Aug. 1. Young males in full adult plumage and inclined to fight for the hens.

The eggs of *C. delegorguei* are not easy to distinguish from those of the Rain-Quail, though, on the whole, the spots are smaller and more numerous. The newly-hatched chicks are slightly darker in colour than those of *C. coromandelica* but otherwise similar.

The call-note of the Harlequin Quail is much like that of the Rain-Quail but less loud and consisting of three notes instead of two.

Coturnix pectoralis (fig. VI.). The Australian Stubble Quail is very common in Eastern and South-Eastern Australia and Tasmania. It is slightly larger than the other members of this genus, with the exception of the extinct New Zealand Quail. It is rarely imported alive into this country, and I can find no published record of its having been bred here. A pair have spent the past summer in my aviary, where the female has reared a brood of seven.

In May the hen commenced to lay, the nest consisting of a few pieces of dry hay beneath a thick clump of grass. Eleven eggs were laid, but she made no attempt to sit, probably being disturbed by the other quails in the same enclosure. On the 15th of June I discovered another nest, carefully concealed beneath thick grass, and on the 19th of that month she commenced to sit on ten eggs. She sat beautifully and hatched off a brood of seven on July 7th, incubation having been completed in *eighteen* days. The chicks were exactly like young Rain-Quails except for their slightly larger size. They were easily reared, though one was found dead, with its skull broken, probably through flying against the wire roof, when about three parts grown.

The young males commenced to show black streaks on the breast when five weeks old, and were in adult plumage when about eight weeks old.

The call-note of the male *C. pectoralis* during the breeding season sounds like "chucaloi."

Coturnix novæ-zealandiæ. The New Zealand Quail is not shown on the plate, as there was no room for a seventh figure, and a bird that is said by the best authorities to be extinct is of little interest to aviculturists. It was slightly larger than *C.*

pectoralis and considerably darker in colour, especially on the underparts.

At one time, and that not so very long ago, this fine quail was very abundant in New Zealand, especially in the South Island, but with the advent of settlers with their marauding domestic animals, their guns and their bush fires, the quail commenced to vanish, and when it became noised abroad that it was becoming rare, the collector, as is his wont, stepped in to finish the work of extermination, and we are told that a single skin of a *female* was sold, within recent years, for seventy-five pounds.

If only a few pairs of the quails had been taken alive the species could have been kept going by breeding it in captivity. There is little doubt that it would have bred in captivity as readily as the other species of the genus, and probably two broods a year, of from five to ten birds each could have been reared from each pair kept.

THE MANAGEMENT AND REARING OF QUAILS IN CAPTIVITY.

To keep quails of the group we are now considering successfully they must have a fairly large run which is well turfed and in which cover is provided by low bushes or bundles of brushwood. Part of their enclosure should also be roofed over and sanded, so as to provide a place for dusting and scratching. My own aviary, in which no less than three species of *Coturnix* have lived together and reared broods during the past summer measures about 42 feet by 21 feet, and is turfed and planted with various trees and shrubs and has a pond in the centre, and the birds have access to a dry well-lighted shed. The aviary is tenanted by many birds, including Ground Doves (*Geophaps*), besides the quails and two species of *Turnix*. It is therefore not necessary that each pair of quails, in order to breed successfully, should have a place to themselves.

As the nesting season approaches the males are apt to drive one another about, but no serious battles are likely to take place and, in the case of the three species which I have had under observation during the past summer, no cross-breeding

has taken place as I feared it might with such closely allied forms as *C. coromandelica* and *C. delegorguei*. In the spring the call-note of the males is very frequently heard, the shrill double note of the Rain-Quail being audible at a considerable distance.

The female generally selects for a nesting-spot a thick clump of grass, under which she draws together a few blades of dry grass, the growing blades being carefully arranged over her back so as to render her invisible from above when on her nest.

The clutch varies somewhat with the species, six being the lowest number and thirteen about the highest for a single bird. The eggs are laid daily until the clutch is complete when, providing the surroundings are to the birds liking, and she is not disturbed in any way, incubation commences. At this time the male deserts the female entirely and seeks another mate, so that, if the enclosure is sufficiently large, it is well to have two females to each male. If however there is no other female present it is advisable to remove the male as soon as incubation commences, otherwise he may worry the hen and cause her to desert her nest.

A note should be made of the date on which incubation commences so as to be able to calculate the date of hatching. Incubation varies from sixteen to eighteen or nineteen days in the case of *Coturnix*, and probably depends slightly upon the temperature of the weather.

A critical time arrives when the hen leaves the nest with her brood. If she should get frightened she may run some distance, calling her chicks which will do their best to follow her, though some may be too weak to do so and promptly die from cold. My own plan, which has worked most successfully, is to confine the hen and her brood in a small run by themselves for at least the first fortnight. The runs I use are about six feet long by four feet wide, about twelve or eighteen inches high, boarded at the sides and wired over the top, and with one end made to open to facilitate the often difficult task of driving the birds in. Part of the top is made to open for feeding. This run is placed upon a flat piece of ground on which is plenty of good grass, and care has to be taken that no space is left anywhere below the sides through which a chick could squeeze. Over part of the top brushwood is placed as a shelter. The hen and her chicks are

then carefully and gently driven towards this run, and when once in they may be considered perfectly safe from harm and quite easy to rear. In fact I cannot remember ever losing a young bird when once I had them safely confined thus. There is no fear of them being disturbed or robbed of their food by other birds, and there is no chance of their wandering from their mother or she from them and their not being able to get to one another again.

There is nothing better for young quails than living ants' cocoons, and the aviculturist who lives right in the country, where he can procure and supply his birds with an ants' nest a day is much to be envied by his less fortunate brethren. When possible I procure ants' nests for my young quails, filling large biscuit-tins with them, earth and all, and tip a little of this mixture of earth, ants, and their cocoons, into the run twice a day. Besides this they are regularly fed twice a day with soft food consisting of finely - powdered hard - boiled egg, bread - crumbs, preserved ants' cocoons and fine crissel, the last two ingredients having been previously soaked. The young quails may be reared on the soft food and seed alone, but they should certainly have living animal food if this can be procured, especially after the first four or five days, when the growth of their feathers is very rapid. I have found small gentles most useful when ants' cocoons were unprocurable, but it is most essential that these should have been kept for two or three days at least in dry sand before being given to the birds in order that they may be thoroughly clean. After the first week I add green food to the soft - food mixture in the form of finely - chopped chickweed or young grass.

Of course seed must be supplied for the mother, and the young birds will partake of this after the first week if not before. Fine Indian millet is very useful for young quails, and they will eat a good deal of this after the first week of their existence.

When a fortnight old the brood may be let out with their mother into the aviary again, but if there are other quails nesting there, or it is desired that the mother of the chicks should have a second brood, it is best to wait until the young birds are three weeks old and then let the mother go back into the en-

closure in which she had her first brood and leave the chicks in the run another week by themselves, then transferring them to a separate aviary or larger run. If they should be allowed with the nesting quails they would most probably disturb these or be driven about and perhaps killed by the adult males. It is advisable to move the run on to fresh ground at least once during the time it is occupied by the brood.

Quails, whether young or old, have a habit, especially at night-time, of springing into the air, and captive specimens often injure themselves severely by dashing against the wire-netting forming the roof of their enclosure. It is therefore an excellent plan to cut the flight-feathers of one wing or even to pinion the birds when young to prevent this.

All of the species of *Coturnix* are quite hardy providing they have access to a dry place in winter.

SOME NOTES ON THE "URRACA" JAY* AND OTHER SOUTH AMERICAN BIRDS.

By H. C. MARTIN.

Returning home lately after some years spent in Uruguay I brought with me a couple of these beautiful Jays, which, as far as I can gather, have been but little, if at all, imported before and do not seem to be known to the dealers. My surroundings out there were not such as to make it very easy to do much in the way of aviculture, but the innate love of keeping some sort of "bichos," and particularly birds, had to have its outlet and, in spite of difficulties and the "slackness" after business hours that a warm climate tends to produce, it was not long before I had a small, miscellaneous collection together in a sort of glorified fowl-run, divided into three compartments. There I kept, or keep, for I expect they will most of them still be there when I return in December, some of the common Tinamous and some "martineta" Tinamous, known usually by the names of "perdiz" and "perdiz grande," a pair of a pretty little blue-gray Heron ("mirasol"), some aquatic bird very similar to a Curlew but

* Presumably the Pileated Jay (*Cyanocorax pileatus*).—RD.

almost wholly of a glossy purple black, the name of which I do not know, though it is locally called "bandurria," the very common "tero-tero," or Spur-winged Plover, which I was soon glad to part with as he is much too noisy a customer for a confined space, though a most beautiful and elegant bird, some pretty wild duck, some pigeons—there are four kinds in my particular district—several pairs of "boyeros," or black Hanguests, I believe, little slim-bodied birds of charming habits though sombre in their garb of black, an "ornero" or Oven-bird—a most interesting species about which I may be one day able to send some special notes—and sundry other small fry. Worth mentioning too, though not an "avis," was a coypú (so called by the natural history books, though in his native country he is always "nutria," the name by which his soft warm pelt is known in the fur trade): he shared the Herons' quarters, and having been caught quite small, was for some time a most pleasing and comical pet, delighting to be rolled over, stroked and tickled, and diving and playing in his tank like a miniature Zoo. sea lion. As he grew larger however his temper became unreliable and he was at times very savage, not to say dangerous, for a bite from the chisel-like teeth of a water rat as big as a fox terrier is no laughing matter.

My first favourites however were the "urracas" and some White-capped Tanagers "Cardinal imperial," very lovely birds, tame and gentle, but which I was unhappily never able to keep for long even in their own climate, though natives have assured me that they are quite hardy and will live well on scalded maize-meal with a little shredded cooked meat and plenty of green food. I was not able to give my birds much attention personally, but I had them supplied with a rather more liberal diet, including fruit. However, I lost them all, apparently by wasting, while I noticed that the moult was very protracted and imperfect. If I try again I shall keep them alone in a large cage and try to discover what it is they need.

To come back however to the "urracas": one of these I obtained as a week-old nestling and it has become about the most ridiculously tame bird I have ever seen: I thought in fact that it never would learn to feed itself as, for a long time, though fully grown and feathered, it used to starve rather than do so,

and even now, though about a year old, when hungry will stand with shuffling wings and baby voice to have tit-bits put down its throat. The other wild-caught bird is also tame and will take food from the fingers in the aviary, but it always remains a little shy and cautious and will not allow itself to be touched, though nothing pleases the other better than to be scratched and tickled, especially with a twig or straw, and he will raise his feathers, stretch his neck and close his eyes in a most laughable way, thoroughly enjoying a dry shampoo.

I unfortunately omitted to take notes of the young bird's nestling plumage, which differed markedly from that of the adult: after one moult he still shows some points of difference from this latter, viz., that his eyes are brown, though I now observe that they are gradually changing to the clear, bright yellow of the other birds; the inside of his mouth too was flesh-coloured, but is gradually becoming black like that of the other, and I have remarked that the soft thick plumage of the breast and vent, practically pure white in the old bird after his moult, was in the young one, right up to the roots of the plumes, of a light creamy yellow: these feathers are, however, so soft and delicate that they get soiled with the greatest ease, and both birds have made themselves so dirty through bathing and afterwards hopping about on the earth floor of the place where I am at present obliged to keep them, that one can no longer distinguish any such difference. I believe, however, that this part of the plumage, cream-coloured in the young bird, becomes throughout gradually lighter with age, though in the wild state even I should think it is very liable to be soiled merely by contact with branches and so on.

They are otherwise very handsome, boldly-coloured birds, considerably larger than the Brazilian Blue-bearded Jay, described by Dr. Butler in the magazine for May 1903: the back, wings and tail, with the exception of a white bar at the end of the latter, are of a deep rich blue which glistens very handsomely in the sunlight: the feathers of the neck and head are of a velvety black and extend to form a semi-circular cravat across the breast while, on the back of the head, they puff out, as it were, into a curious rounded crest like half a black velvet "pom-pom," as I

believe the ladies call it, from beneath which falls away a patch of light lilac-blue feathers, making a very sudden contrast above and blending below into the dark blue of the back. The little brilliant blue eye-patches and darker purplish blue patches at the base of the lower mandible are disposed in almost the same way as in the Blue-bearded Jay above-mentioned. The rounded crest gives the bird a very quaint appearance at first sight and I am unacquainted with any other passerine bird which has a similar one, most crests rising rather from the front of the head : it may perhaps be compared with that of the Tufted Duck on a small scale.

The "urraca" in his wild state is rather a shy bird, though at the same time in one way a bold one, the natives saying that he can be caught in the simplest of traps and that he frequently comes down after a "carneada" (killing of an animal by the cattle-men for food out in the "camp") to try and snatch a tit-bit for himself. But down in the thick and shady "monte" or woods by the riverside which he haunts—I have never seen him elsewhere and even there he is a scarce bird—one seldom sees him clearly but merely hears a ventriloquial "craw," and may just detect a flash of blue and white passing through the dark and creeper-hung trees. Of his nesting habits I can say little as I have never actually found the nest, but believe it to be very like that of our English Jay. I have remarked that the birds are very fond of breaking twigs or sticks into short pieces which they do with a dexterous twist of the head, aided perhaps by a previous hammering with their powerful beaks. There are birds' nests galore to be found in the "camp," and I was much struck at first by the numerous large ones built of sticks, such as those of the "leñatero" (wood-gatherer) and of the little Green Conure, seemingly so exposed and accessible : but if one tries to get at them one soon finds that it is not so easy as it looks : the small hardwood trees are full of thorns and generally so bristly as to be almost unclimbable, even if large enough for that, while the nests themselves are for the most part built of thorny sticks packed together with such strength that it is a difficult matter to break or remove them.

Nor can I well describe the voice of the "urraca"; he has

so many and such varied calls. The old birds will come up to the wires and call, chatter, and whisper in the most curious way, bowing and jerking himself about and evidently doing his best to talk and be sociable. Both have several loud and ringing call notes, one almost like the bark of a puppy which they generally utter when alarmed or surprised: they are said to learn to talk well which I can quite believe, for they undoubtedly mimic various sounds, and the young one can whistle like any parrot. As pets I know of no more interesting or desirable birds; they are very pretty, tame and hardy and almost as intelligent as dogs. A piece of biscuit or a nut tossed to them will be very cleverly caught, sometimes in mid-air, and every new object is thoroughly investigated, being gripped between the feet, just in the manner shown in Mr. Grönvold's illustration of the Blue-bearded Jays, to be hammered by the powerful bill, with which they will very soon split a lead pencil, for example, into splinters. They seem to have all the curiosity and love of bright objects of the Crow tribe, and one particularly noticeable habit is that of concealing pieces of food, especially nuts or fruit stones, in some crevice or on the ground, hammering it home and then piling up quite large stones, lumps of earth and sticks above it.—I have seen them lift and fly away with so heavy an object as an almost entire hard-boiled egg, though their flight is by no means powerful.—They have a quaint way of not appearing satisfied with this burying operation the first time, undoing all their work and repeating the whole business in some other corner, and I believe they never forget where they have hidden something. Another trick they have is that of pouching their food in the front of the throat or bottom of the mouth and carrying it about in this way for quite a long time, until they select a hiding place for it or finally swallow it. The two seem much attached to one another and pay each other many little attentions, but I am unable to say whether they are a true pair; if they are, and given a very roomy home and suitable treatment (to keep them or similar birds in a cage of small dimensions is to my mind a cruelty, apart from which it gives one no opportunity of observing their habits properly) I feel sure they would breed easily in this country, but they should not be subjected out-of-doors to the trials of our

long, damp, foggy winter. These two I have given to another of our members, but shall certainly try to get a couple more to keep when I return, for I know no species I can more strongly recommend to bird lovers, more perhaps as a pet than from the strictly avicultural point of view.

As to feeding, I think what one would give to an ordinary English Jay or Magpie is all sufficient: a little meat, for preference cooked, hard-boiled egg and biscuit, varied with an occasional chicken bone, some sweet cake, fruit or nuts, of which latter they are very fond, and a few mealworms or insects when obtainable, seem to suit them well, though they eat but little for their size. They revel in a good splash and should be allowed a good large bath pretty often.

In an aviary or very large cage I should feel inclined to fix up for them one of those large wire flower-baskets, or else some sort of box, like a small dog-kennel with a wire-work bottom and a perch inside, as basis for a possible nest.

Parts of Uruguay abound in beautiful and interesting birds, very many of which I feel sure have never reached England except as skins. One is struck at first by their greater tameness in the wild state, as compared with our native species, but to obtain them alive is not an easy matter, the professional bird-catcher being out there a scarce individual, while the average native peon fails quite to understand why a mutilated corpse or severely injured bird is not a desirable acquisition to the erratic "inglés." However, far distant be the day when the professional catcher may become a common object of the country.

In conclusion, a few words as to bringing birds home from foreign countries, though what I am about to say is nothing new to most aviculturists. Insist upon a strong, sufficiently large and airy cage of the box pattern, open only in front. (Oh, the martyrdom that I have seen hundreds of unhappy birds subjected to on board ship, through bad caging, over-crowding, and the appalling ignorance of their owners, who cannot make out why one in ten often cannot survive a three-weeks' passage.) Let your cage be made with small meshed wire even for the largest birds—this to defeat as far as possible the assaults of those strange people who think that all living things were made for them to poke at, as

well as of ship's cats, rats, and other vermin—and of a form to provide shelter from sun and salt water, rain and wind: such cage to have a couple of stout battens nailed on underneath to prevent it from standing in the wet, and to have the food and water tins *in front*; if they are placed at the side and other packages are placed against them, the butcher, who is generally no naturalist and, on a liner, perhaps a rather hard-worked person, will find it too much trouble to move these latter and your birds will only get fresh water and clean tins "sometimes." I have also found it well to have a piece of canvas to roll down the front for occasional protection. Then keep a good eye on your birds *yourself* and go and see them once, if not twice or thrice, a day; but above all, at least so my experience has taught me, be diplomatic and cheerful with Mr. Butcher, for liners do not like live stock and he knows it very well, so that even the prospect of a generous tip—which is more or less obligatory in any case—has not always the desired effect. You must not be fussy with him or expect him to know that bird-seed is not the proper nourishment for Plovers or Bien-te-veos (sulphury tyrant, I believe): a cheery good morning and an occasional cigar will effect much more. Hardy and easy to feed as they are I doubt whether I should have got my Jays home safely from Buenos Aires without all these precautions, through the sheer ignorance and indifference one meets with.

The best way, if one cannot accompany one's birds, is no doubt to ship by some of the faster regular cargo boats, and lucky are you if you can arrange for some officer or other intelligent and interested person on board to take care of them for you. As far as possible, too, always ship a supply of the most suitable food you can.

For anyone taking a short trip, say to Madeira or the Canaries, and thinking of bringing birds home, I should recommend taking a special box-cage with one's luggage, making it to pack in sections, and if one thought of bringing back soft-billed birds one would do well also to provide a tin or two of some special food and perhaps a supply of ants' eggs, so-called.

ON THE BREEDING IN CAPTIVITY OF THE RED-BACKED SHRIKE.

(Third Notice).

By Dr. ALBERT GÜNTHER, Hon. M. Avic. Soc.

The same pair of Shrikes, whose breeding operations were reported in the *Avicultural Magazine* for 1904 and 1905, have nested again in their aviary in the present year.

Almost to the day (April 24th) the short period of migratory unrest commenced, and was particularly troublesome in the male bird; even in the day-time he seemed terrified when I approached his cage; the female did not show any signs of seasonal excitement.

After they had been moved into their aviary, it took them some time to settle quietly in their summer quarters; they behaved exactly as last year. The cold weather which continued nearly through the whole of May, repressed their reproductive instincts and the male attended at this period to his nesting operations in the most perfunctory manner, merely preparing a layer of moss at the bottom of last year's nesting basket. The nest was finally completed at the end of June and the first egg laid on the 30th of that month. The clutch consisted of three eggs only. They were unusually brightly coloured, one being spotted all over and so different from the others that a collector might have been excused for supposing it to be a Cuckoo's egg. Only one young was hatched which in due time has grown into a strong bird, and although independent for its food, is still occasionally fed by its father (September 30).

The young reared last year have proved to be a male and female, and if I am right in thinking that the one of the present year is a female, the proportion of the sexes of the young of this pair of Shrikes is, so far, exactly alike.

NOTES ON DOVES.

By C. CASTLE-SLOANE.

I first made the acquaintance of the pretty and graceful Senegal Doves in June of last year; they soon made themselves at home in the aviary set apart for the doves, and started to make a fragile nest of a few twigs and hay, it really could not be called a nest as it was so flimsy, and looked so like coming down with every gust of wind, that I quite expected to see the eggs broken when I went in of a morning; however the birds seem proud of accomplishing such a nest. The eggs were laid on the 6th and 7th of August: of course they chose the most exposed spot possible, and after a few days, when everything was going on nicely, an awful storm of rain which lasted for two or three days came on, luckily a slight shower came first as if to warn me what to expect, so a piece of matting was placed over the top of the aviary and so protected the nest. Contrary to expectations, the young were hatched, and fine big birds they were, the parents being very attentive to them; but one morning, without any warning, they were both found dead in the nest. The bird had not deserted them, as she was sitting on the nest that night. About this time I went away, and heard nothing more till one morning I received a letter stating that they had nested again, the eggs being laid on the 18th and 19th of August, and hatched out on September 2nd. The young grew and prospered and, at the time of writing, are flying about in the aviary. When these doves were nesting they were rather spiteful to the others, and when they left the nest for food they would fly all round the aviary making darts at each occupant as if for the fun of the thing.

About the same time I heard that the Painted Doves had laid on the 16th and 17th of August and hatched out on August 31st. I was rather excited, thinking that this might be a rare species, so I wrote to Mr. Seth-Smith saying that I was away and asking if he could tell me what it was, and he very kindly told me it was the White-winged Zenaida Dove (*Melopelia leucoptera*). This dove also built a very fragile nest, choosing an open spot. Some time ago I bought some basket nests and put them in the

most suitable places, as I thought, but soon found the birds preferred to choose their own spot for a nest, as not one of the baskets was used. I never take any precautions as to the young birds falling out of their nests as there never appeared to be any need for it. The only time that I did have nestlings die was when I handled them, and nothing would then prevent them from falling out, and although I put them back, in the morning they were found dead.

I have bred in the same aviary the Australian Crested Dove (*Ocyphaps lophotes*), the White-fronted Dove (*Leptoptila jamaicensis*), the Rufous Dove (*Leptoptila reichenbachi*), the Cinnamon Dove (*Chamaepelia talpacoti*), and the White-wing Zenaida (*Melopelia leucoptera*), while I had at one time or another the Bleeding-heart, Wonga Wonga, Spotted, Araucana, Crown and White-crowned Pigeons, Indian Green-winged, Red Mountain, Black Spotted, Pigmy, and Geoffroy's Doves, etc.

FOOD FOR NIGHTINGALES AND OTHER DELICATE INSECTIVOROUS BIRDS.

By the Rev. HUBERT D. ASTLEY, M.A.

May I be allowed to assist in digging up some of the truth with regard to the most satisfactory food for nightingales, etc.? During an automobile tour in Umbria and Tuscany last spring-time I purchased two of these birds. One at Arezzo at the commencement of the tour; the other at Siena at the finish thereof.

My Arezzo bird—the native town of Petrarca—sang beautifully whenever and wherever the motor-car came to a standstill—in hôtels strange to him, at railway stations when the motor-car was no longer with us—and even in the motor-car before we actually started for a day's journey.

It was through purchasing the Sieneese bird that I obtained the most valuable tips as to food. I had gone to a small bird-shop (oh! how dirty and smelly it was) to buy some mealworms, telling the man that I wanted them for a Nightingale, upon which he asked me whether I should like another one. At first

I said "no," but on his telling me that it belonged to a shoemaker who would be glad to part with it because it sang so loudly, I consented to be conducted to view it. It was evidently a young bird like the Arezzo Nightingale: that is—as the owner indeed assured me—a bird of the previous year. I heard him singing as I walked down the street, for the cage in which he lived was hanging outside.

Like the one already purchased, this bird was extremely tame, pecking at the fingers of his owner, and I could not resist buying him for 30 lire.

Upon asking the shoemaker what he gave his bird to eat, he answered as follows: Fresh heart (no meat but heart, be it heart of bullock, chicken or any other heart) chopped extremely small and mixed well up with flour of Indian corn. Then add some "bachi de seta" [silk worm cocoons] finely powdered, and mix altogether. Chop finely some radish leaves, and mix in thoroughly. To this may be added a little grated cheese, and some olives, which must be unsalted. They are dry olives, and must be soaked in water, and then chopped up. This then is what I give my Nightingales to eat, adding also some pieces of grape, elder berries, apple and other fruits.

I feed a Blue-winged Siva, a White-capped Himalayan Redstart and a Shama on the same. I give them the mixture twice a day, making it all up in the morning, but putting aside some part of it [in a refrigerator if the weather is hot] and giving the birds their second course during the afternoon.

I suppose one could import to England dried olives (unsalted) and also a sack of the dried cocoons which are put aside after the silk has been wound off them. Grilli, 100 Via Ghibellina, Florence—a bird dealer—would supply them. Unfortunately these cocoons have rather a strong odour.

The above recipe is undoubtedly a good one, for if not how could Nightingales thrive as I found them thriving when I bought them, in filthy cages, with unclean drinking water, and living by day in a draughty street, and by night in extremely stuffy shops?

THE NESTING OF
TRICHOGLOSSUS JOHNSTONIAE.

By Mrs. JOHNSTONE.

An interesting account of the importation of these Lorikeets, by Mr. Walter Goodfellow, was published in the January number of this magazine, and makes a description of these birds and their native home unnecessary, so I must take up their Life Story from the time they reached my hands.

Three birds reached me alive—a fourth reached England but died at the Docks—one of the three looked like dying, but after twenty-four hours care and warmth, quite recovered. They were turned into their new quarters about November in last year and lived in perfect peace and friendship until February, when signs of a break up of the happy party were to be noticed. Two of the birds kept much together, roosted together, and together combined in making the life of the third bird a burden and misery. She—for it turned out to be a female—was chased, pecked, and not allowed to feed, until fearing fatal results, she was moved into the next aviary, and so the pair had the place to themselves.

The aviary measures 10 ft. square by 8 ft. high, with a small outside flight, the inside aviary has several fir boughs nailed up, the outside a few perches, but no growing trees. Amongst the inside perches a cocoa nut husk was fixed, and on the wall one or two nesting boxes of different patterns. The pair of Lorikeets billed and cooed, otherwise made funny little twittering sounds, and played like kittens, or as only Lories and Lorikeets can do. The cock fed the hen and the pair roosted together in the cocoa nut husk, out of which they had scratched most of the fibre. This went on for about three weeks, when a change was noticeable in the behaviour of the cock. This fickle fellow now spent much of his time talking to the odd Lorikeet in the next division, the very bird he had so cruelly ill used a few weeks previously. He and she were always to be seen chattering, scrambling up and down the wires, and generally disporting themselves like two sad and separated lovers; the poor little deserted hen sitting inside the aviary looking the

picture of misery. Once more the three were allowed together, but this time the deserted hen had quickly to be captured, as she had had her tail pulled out and been almost scalped by the new wife and her fickle mate.

These birds now took possession of a small wooden box, measuring about 7 in. by 10 in. high, and a cocoa nut husk cemented at the bottom. The hen almost at once commenced to sit, or rather they both did, for the cock spent nearly as much time in the box as the hen, always roosting in it together and he feeding the hen several times a day on the nest.

Three weeks passed, and at last I fancied I heard more than one sound when the feeding took place, the hen rarely appeared and I made sure there were youngsters. At last, as the hen appeared to be neglecting the babies, I took courage and peered into the box, the old birds solemnly looked on and showed no annoyance. To my great disappointment there was *nothing*, not an egg, or even an egg shell, and to this day I cannot imagine why this farce was carried through, it was such a ridiculous waste of time and energy and so annoying to their owner.

About three weeks after this the hen commenced to sit again, but I took very little interest in her affairs, as I quite believed she was going to play this little game again. The cock fed her industriously and as before roosted and spent much time in the nest box, which considering the weather—86 deg. in the shade—must have been warm work. I still kept count of dates in case of success, and just three weeks after the hen disappeared little squeaks and sounds of young birds proceeded from the nest box. I was sceptical at first, but as the sounds got stronger I took advantage of the old birds' absence and once more examined the nesting box. The old birds flew in at once with cries of rage and fright, but I had time to see two little bare red bodies with large beaks—baby Lorikeets about a week old!

And now, day by day, the sounds grew louder from the box, the calls for food stronger but at longer intervals. The old birds fed largely on spray millet and sweetened bread and milk; half an orange was also consumed daily.

Just a calendar month after the young ones were first heard in the box, they appeared perfectly fledged, in faultless

feather, exactly like the old birds, with the following exceptions: the beaks are black, a fine white ring of skin is noticeable round the eye, the edges of the flight features in the wings are edged with white—they are slightly smaller. The maroon marking from the eye to eye is not so clearly defined at the back of the head, but starts in a wide band from the eyes.

"Them there Johnstonians," as my bird boy gravely calls them, are a most devoted family, the old birds' fondness is pretty to watch. As a rule they roost alternately, first the old cock, then a young bird, then the hen, then a young bird—packed close together they chatter and twitter and preen each others' feathers.

And now I discovered the only point in which these birds differ in their nesting from other Lorikeets. In taking down the nesting box and cocoa nut husk, for the autumn cleaning, I was surprised to find in each a rough nest. The little ends and twigs of fir, tiny scraps with the needles attached had been carried into the box, the cocoa nut fibre had been scratched up and quite a nest constructed. The cocoa nut husk had been similarly treated, several pieces of twig and fir had been carried in, in fact both the box and husks were half full of scraps and bits of twig and fibre.

In conclusion, may I add, that these birds are absolutely hardy; since I have had them they have been perfectly well, and all through last winter were out on every passable day, scrambling and playing, when most Lories and Lorikeets would have looked puffy and miserable. This is not of course surprising, as they come from a very high altitude, but it is refreshing to find a hardy beautiful creature, and one as ready to reproduce its species in captivity,

QUEEN ALEXANDRA'S PARRAKEET.

The Rev. H. D. Astley has kindly sent us the photograph which we publish of the interior of one of his aviaries showing his male Queen Alexandra Parrakeet, *Spathopterus (Polytelis) alexandrae*. These very rare and beautiful Parrakeets nested during the past summer, the female laying no less than three clutches of eggs, in April, May and June. All however proved to be unfertile, though she sat splendidly.



Interior of one of the Rev. H. D. Astley's aviaries showing male Queen Alexandra's Parakeet and Blue Robin.

REVIEWS.

THE STORY OF HEDGEROW AND POND.*

In the December (1905) number of this journal we had occasion to notice a delightful book for young people entitled "The Birds and their Story," by Mr. R. B. Lodge, of which the volume now before us is a companion. As may be gathered from the title the author deals with the many wonders of Natural History that are revealed at every season of the year, and in every hedgerow and pond, to those who have eyes to see them. Mr. Lodge is a naturalist who knows well how to observe nature and to teach his readers how to do so also.

Many very charming little etchings are inserted in the margin of the pages, and there are no less than eight full page coloured plates by the author's brother, Mr. George Lodge, who is perhaps second to none as a naturalist artist.

We can very strongly recommend Mr. Lodge's book to those who wish to give their children and young friends a book that will interest and instruct them in nature study.

GARDEN AND AVIARY BIRDS OF INDIA.†

Mr. Frank Finn is well known to our members as an authority on Indian Birds, and a new book on this subject from his pen will be welcomed by many. The book is written chiefly for Anglo-Indians, and the birds dealt with are those which are commonly to be met with in the gardens of India; but as these are sometimes brought home to this country, where some of them, such as the Dhyal or the Shama, make very delightful aviary inmates, the book is of great interest to aviculturists generally.

At the end the author deals with many of the better known aviary birds belonging to other countries, and which are often to be seen in the Calcutta markets or in private aviaries.

A chapter dealing with classification is written in such a way that it can be easily understood by every one; and seven black and white plates add to the usefulness of the volume.

**The Story of Hedgerow and Pond*, by R. B. Lodge, London; Chas. H. Kelley, 26, Paternoster Row, E.C. Price 5/- net.

† *Garden and Aviary Birds of India*, by FRANK FINN, B.A., F.Z.S., M.B.O.U.
Calcutta: Thacker, Spink & Co. London: R. H. Porter.

CORRESPONDENCE, NOTES, ETC.

FOREIGN BIRDS FOR LONDON PARKS.

Several members have shown that they take an interest in the proposed experiment of liberating some foreign doves in Regent's Park by sending contributions towards the purchase of the birds. The following donations, for which I am most grateful, have reached my hands:

	£	s.	d.
Rev. Hubert D. Astley	1	1	0
Sir Alexander Baird, Bart. .. .	2	2	0
Mr. C. Castle-Sloane	2	2	0
Dr. F. D. Drewitt	1	1	0
Mr. W. B. Gibbins	5	0	0
Mr. W. J. Lewis	0	10	0
	<hr/> £11 16 0 <hr/>		

Besides these very generous money-donations Mr. W. J. Lewis has given two pairs of Necklace Doves, the Hon. Gerald Lascelles has promised a pair of Palm Doves and, as previously announced, Sir William Ingram, Bt. six Bronzewing Pigeons.

The species which I believe would be most likely to succeed is the Australian Crested Dove. This is an exceedingly graceful and beautiful bird, hardy and well able to take care of itself, and it is proposed, if the birds are to be had, to spend almost all of the sum subscribed on the purchase of examples of this species. The Bronzewing Pigeon would also be a good one for our purpose, and possibly some of these may also be purchased, but I think the Crested Dove (*Ocyphaps lophotes*) is the most suitable species.

Dr. Drewitt is also of this opinion, for he writes me as follows concerning this bird: "This bird seems to have all the necessary qualifications, being hardy, beautiful and harmless. It bred freely in the aviaries of the late Lord Lilford; and a pair I once had seemed quite happy even in a cage in London.

"The usual argument against acclimatization cannot be applied to it. Rabbits, Starlings, Sparrows, and Thrushes were known to be harmful long before they were introduced into our Colonies. There can be little danger of the graceful little dove competing with the Woodpigeon, if it did no great harm would be done.

"Of course the first of them will share the pioneers' fate. Some will be "obtained" and stuffed; some greedily eaten by cats. But others will survive. May they become the ancestors of a prosperous race."

Any member who has Crested Doves to sell at a reasonable price, or to give for the experiment will greatly oblige by communicating with me.

It is proposed to form a small Committee to manage the experiment, and of course a full statement as to how the money has been spent will be published in due course.

D. SEETH-SMITH.

SIR,—I have just received my copy of the *Avicultural Magazine* for September and have read with horror, not to say disgust, the suggestion to turn out a number of Australian Crested or Bronze-wing Pigeons in Regent's Park. Are we dissatisfied with our own avifauna that we should try and establish birds beautiful and harmless enough perhaps in their own country, but which when once started in England might and probably would completely drive out many interesting species of birds?

I have been to most civilised and uncivilised countries in the world and have seen many "introduced" species of birds, that is to say birds introduced into continents and islands outside of their range, and I have never yet come across a single instance where this has not done harm to the original avifauna, and I defy anyone to prove otherwise. Once let a foreign species of bird or mammal become established, and then, either good-bye to some interesting original species or, if this does not happen, the "introduced" species multiplies accordingly and quickly becomes a curse. I need here only mention a few instances. Mynahs introduced into Fiji, the Sandwich Islands, and Tahiti are fast outnumbering and destroying many of the smaller peculiar passerine birds of those islands. Sparrows in Australia need no comment from me here. The Mongoose in the West Indies is quickly becoming, or rather has become, an absolute menace to the resident fauna. The American Opossum (*Didelphis marsupialis*), perhaps a harmless mammal in its own country, has now, owing to its being introduced into the West India Islands, *completely exterminated* the Capped Petrel (*Estrelala hesilata*) in the two Islands Guadeloupe and Dominica, when and where it is known to have bred. There is no need to further enlarge upon the "introduction" follies, and if we in England, one of the few countries in the world whose avifauna has been kept comparatively pure, and which is probably one of the most interesting in the world, if we, I say, will not take warning by the follies of our Colonies, may we, or at least those who intend to perpetuate this new folly, live to repent it.

Zoological Gardens, Giza, Egypt.

MICHAEL J. NICOLL.

[We regret that we cannot agree with Mr. Nicoll. We are very fully aware of the amount of harm that has been done by ill-considered acclimatization, and the instances quoted in the above letter were all ill-considered. In almost every instance prolific species from cool climates have been introduced into countries where the temperature is warm enough to admit of a *perpetual breeding season*. The introduced species moreover have been more powerful than the native species with the result that the latter have been overpowered. Had the introducers of the Sparrow, Rabbit, or Mongoose, or any of those species mentioned by Mr. Nicoll, stopped for one moment to consider what would be the result of their experiment they could not have failed to see its folly.

With the experiment we propose to try we maintain that no harm could possibly result. We are introducing species from a warm climate

into a country with a much cooler temperature. Hence their natural breeding season would be reduced. Moreover the Australian Doves, which we propose to liberate, are far less robust in constitution than the indigenous Woodpigeons which at present have the Parks to themselves. It seems unlikely that they would spread much farther than the London Parks if indeed they manage to hold their own there for any time, but even if they ever managed to spread to the surrounding country they could never do much harm, none in fact compared with the Woodpigeon. Moreover, being rarities, they would be immediately shot by the ubiquitous collector.

Again the introduction of these Australian Doves could not affect the records of the occurrences of rare migrants such as the introduction of foreign Palearctic birds would be likely to do, for no one would expect them to have migrated to this country of their own free will. If this were the case we could understand Mr. Nicoll's objection. As it is, it is difficult to do so. As before stated in this Journal, the Crested and Bronzewing Pigeons have already been liberated and become more or less established at Woburn.—ED.]

SIR,—I am afraid the scheme of turning out Bronzewings, etc., will not answer very well. My own experience has only been with Barbary Doves, but I found after a few years that (after increasing up to about thirty in number) the birds gradually decreased till only one was left. They had perfect liberty, and there is a park close to our garden, so they had plenty of space and were regularly fed.

I think, if any experiment is made, it seems a pity to do so with such expensive kinds of doves as Bronzewings and Crested Doves, it would be wiser to try with Java Doves or Barbary.

R. ALDERSON.

[We imagine that the purely wild species would be more likely to succeed than those which have been domesticated for centuries, such as the Barbary Dove and its white form known as the Java Dove.—ED.]

POST MORTEM EXAMINATIONS.

DEMOISELLE CRANE. (Mrs. Gregory). There was extensive disease of the mesenteric glands, and although your bird ate ravenously he was unable to assimilate the food given him. He died of heart failure through weakness.

CURLEW. (Mrs. Gregory). Your bird died of syncope. No doubt the emaciation and weakness were caused by the want of more insect food, and although you ultimately gave him this in quantity it was too late, he being too weak to digest it.

YOUNG GOULDIAN FINCH. (Miss Alderson). Your young bird died as a result of cold I expect owing to getting out of the nest too soon. I did not find hemp very good for Gouldians.

ARTHUR GILL.

F. C. THORPE,

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Stock Always Changing.

NOTICES TO MEMBERS—(Continued from opposite page).

MEMBERS' SALE AND EXCHANGE COLUMN.

The charge for private advertisements is SIXPENCE FOR EIGHTEEN WORDS OR LESS, and one penny for every additional three words or less. Advertisements must reach the EDITOR on or before the 26th of the month. The Council reserve the right of refusing any advertisement they may consider undesirable.

Healthy young Redrump Parrakeets, 30/- pair, from outdoor aviary, would take hen Bluewing Love-bird in part exchange.

FFOULKERS, Melangell, Rhyle.

Avicultural Magazine, Old Series, Vol. II. bound, Vols. VI, VII, VIII, unbound. New Series, Vols. I, II, III, IV, unbound. *Parrots in Captivity*, by Dr. Greene, Vols. I & II, bound in one volume, half calf. Vols. III & IV, incomplete, unbound. *Cassell's Book of Birds*—Jones—4 volumes in 2 volumes, half calf.

MISS HUSBAND, Clifton View, York.

Cock Cordon, 5/-; pair Grey Singing-finches, 4/-.

TESCHMAKKE, Ringmore, Teignmouth.

Young Golden Pheasants, two cocks shewing colour, one hen, 3/6 each.

G. PORTER, 38, Mill Street, Bedford.

Handsome adult cock Red Rosella, 30/-; cock Persian Bulbul in song, 25/-.

MISS PEDDIE WADDILL, 4, Great Stuart Street, Edinburgh.

Offers requested for (unbound) Vols. VI, VII, & VIII, Old Series, *Avicultural Magazine*, also Vols. I, II, & III, New Series.

MISS THOMAS, Hurworth Manor, Darlington.

Cock Shama, just through moult and beginning to sing, 20/-; family of four Long-tailed Grassfinches, still in nest-plumage, 20/-; pair Pileated Finches, 15/-; 1906 Zebra-finches, 4/- pair, odd hen 3/-; large green crested (1906) cock Canaries, 7/6 each; cock Greenfinch, 1/6; light Goldfinch mule £3.

MISS R. LYON, Harwood, Horsham.

Pair of Grey Jumpers or Grey Struthidea, built a nest this year, 35/-; Blue Magpie (*Urocissa sinensis*), 35/-. The above have been in outdoor aviary two years. Golden-fronted Green Bulbul, tame, 30/-; pair pure White Jackdaws, this year's, 60/-.

P. THORNILKY, Shooter's Hill, Wem, Salop.

WANTS.

The charge for members' advertisements under this heading is FOUR PENCE FOR TWELVE WORDS or under, and one penny for every additional three words or less.

Cock Chingolo, exchange hen; hen Pintail, exchange cock; hen Aurora.

TESCHMAKKE, Ringmore, Teignmouth.

III.

NOTICES TO MEMBERS—(Continued from page ii. of cover).

NEW MEMBERS.

1. N. KERR; Primrose Club, Park Place, London, W.
2. H. P. THOMASSET; Cascade Estate, Mahé, Seychelles Islands.
3. EMILIUS HOPKINSON, D.S.O., M.A., M.B. Oxon.; 45, Sussex Square, Brighton.
4. The Honble. Lady HARVEY; Langley Park, Slough.
5. SLINGSBY TANNER; 62, Cheyne Court, Chelsea, S.W.
6. GORDON DALGLIESH; Brook, Witley, near Godalming, Surrey.

CANDIDATES FOR ELECTION.

1. COLIN MCLEAN; The Heath, East Dereham, Norfolk.
Proposed by Mr. HUGH WORMALD.
2. EWART SOUTHCOMBE; Manager of the Zoo., Stoke-under-Ham.
Proposed by Mr. F. H. RUDKIN.
3. LAWRENCE HARDY, M.P.; Sandling Park, Hythe, Kent.
Proposed by Mr. W. H. ST. QUINTIN.
4. MISS CONSTANCE E. POWELL; Winterstrip, near Newbury.
Proposed by Mrs. F. C. HOPSON.
5. RICHARD A. LIEBERT; Hylands, Chelmsford.
Proposed by Mr. DONALD SWIFT.
6. MRS. HEATHCOTE AMORY; Knightsheyer Court, Tiverton, North Devon.
Proposed by Mr. M. L. MARSHALL.
7. KENNETH COOKSON; Oakwood, Wylam-on-Tyne.
Proposed by the Editor.
8. H. H. WILLS; Barley Wood, Wrington, Somerset.
Proposed by Mrs. H. MARTIN GIBBS.
9. HOWARD VYSE; Stoke Place, Slough: and
10. CECIL LEIGH; Lyburn Park, near Lyndhurst, Hants.
Proposed by Mrs. ATHERLEY.
11. Lady MAGDALEN WILLIAMS BULKLEY; 24A, Portland Place, W.
Proposed by Mrs. C. STACKY CLITHEROW.

NEW MEMBER OF COUNCIL.

Mr. A. E. L. BERTLING having resigned his membership of the Society, the Committee have chosen Mr. W. E. TESCHEMAKER to temporarily fill the vacancy on the Council in accordance with Rule 10.

THE ILLUSTRATION FUND.

The Committee acknowledge with thanks the following donations:

Mr. E. G. B. Meade-Waldo	£0 10 0
Mr. W. B. Gibbins	0 10 0

(Continued on opposite page).

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DECEMBER, 1906.

Members' Annual Subscription, 10-; payable in advance.



THE JOURNAL OF THE AVICULTURAL SOCIETY.

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LONDON:

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All Subscriptions

should be sent to the Honorary Business Secretary.

THE AVICULTURAL SOCIETY.



Persons wishing to join the AVICULTURAL SOCIETY are requested to communicate with either of the Hon. Secretaries or the Editor.

NOTICES TO MEMBERS.

The Subscription to the Avicultural Society is 10/- per annum, due on the 1st of November in each year, and is payable in advance. The entrance fee is 10/6. The *Avicultural Magazine* is sent free to members monthly. Members joining at any time during the year are entitled to the back numbers for the current year, on the payment of entrance fee and subscription.

All MSS. for publication in the Magazine, Books for Review, and Private Advertisements should be addressed to the Editor, Mr. D. SETH-SMITH, Glengarry, Canning Road, Addiscombe, Surrey.

All Queries respecting Birds (except *post mortem* cases) should be addressed to the Honorary Correspondence Secretary, Dr. A. G. BUTLER, 124, Beckenham Road, Beckenham, Kent.

All other correspondence, and Subscriptions, should be sent to the Honorary Business Secretary, Mr. T. H. NEWMAN, Newlands, Harrowdene Road, Wembley, Middlesex. Any change of address should be at once notified to him.

Advice is given, *by post*, by members of the Council to members of the Society, upon all subjects connected with Foreign and British birds. All queries are to be addressed to the Hon. Correspondence Secretary and should contain a penny stamp. Those marked "Private" will not be published.

The Magazine is published by Mr. R. H. PORTER (7, Princes Street, Cavendish Square, W.) to whom all orders for extra copies, back numbers, and bound volumes (accompanied by remittance) should be addressed.

Cases for binding Vol. III., New Series, of the Magazine (in art cloth, with gold block on side) can be obtained from the Publisher, post free and carefully packed, at 1/6 each; or the Publisher will undertake the binding of the Volume for 2/6, plus 8d. for packing and postage. All orders must be accompanied by a remittance in full; and Members are requested to state whether they want the wrappers and advertisements bound in at the end or not.

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Vols. I., III. & IV., are out of print. Second-hand copies sometimes reach the Publisher, to whom application should be made.

(Continued on page iii. of cover.)



H. Grönvold, Del.]

[Witherby & Co., Sculp. et Imp.]

WHITE BELLIED PLUMED-DOVE ♂.

Lophophaps leucogaster. (From life.)

Avicultural Magazine,

BEING THE JOURNAL OF THE
AVICULTURAL SOCIETY.

New Series—VOL. V.—No. 2.—All rights reserved.

DECEMBER, 1908.

NOTES ON THE PLUMED DOVES.

By D. SETH-SMITH, F.Z.S., M.B.O.U.

Three species, or perhaps two of them should be ranked only as local races or sub-species, are known of the genus *Lophophaps*. They are exceedingly beautiful little Doves, entirely terrestrial in their habits, running over the ground as rapidly as Quails, and springing into the air with the same rapid buzzing flight.

The Plumed Doves inhabit the heated and arid plains of Australia, where their plumage harmonizes with the reddish sandy soil, and they love to bask in the tropical heat of the sun's rays. They never perch on trees although they delight to sit on rocks.

The three species or races which comprise this genus are as follows:

1. *Lophophaps plumifera*, Gould's type of the genus, differing from *L. leucogaster*, the bird now figured, by its darker colour and by the absence of the white pectoral band so conspicuous in *L. leucogaster*. Habitat: North West Australia.
2. *L. ferruginea* (Gould), differing from *L. plumifera* only in the cinnamon colour of its plumage being of a much deeper hue. It inhabits Western Australia and perhaps is merely a local race of *L. plumifera*.
3. *L. leucogaster* (Gould) figured in the accompanying plate, inhabits "the whole of Central Australia, the Gulf District and the interior of Northern and North-Western Australia." (North).

It is of the last only of these three forms which, accord-

ing to Mr. North, is a perfectly distinct species, that I have had any experience, and of which I propose to offer a few brief notes.

In the first place it may be as well to quote from the writings of those who have met with this bird in its native wilds. In the *Report of the Horn Expedition to Central Australia* in 1894, Mr. Keartland writes: "At Crown Point, on 18th May, Mr. Belt secured the first pair of these birds. They proved to be adults, and the female contained a well-developed egg in the oviduct. Subsequently I obtained them in numbers at Lawrie's Creek, Petermann Creek, Hermannsburg, and in fact wherever rocks and water existed, until we reached Crown Point on the return journey on 26th July. On several occasions they made a welcome addition to our table, where their beautiful white flesh was much appreciated. Their love of rocky country has gained for them the appellation of 'Rock Pigeons.' They are strictly ground birds and never perch on trees, but assembled in small companies on the rocky sides of the gorges through which we passed, where they seemed to enjoy basking in the hot sun. Owing to their colour they are not easily seen on the red sand and rocks. They are easily approached, and when disturbed rise with a 'whirr' like a quail; but as soon as they are on the wing they gently glide away, giving a tempting shot. At Stokes' Pass, Hugh Edgar, one of our camel drivers, found a nest, if such it might be called, containing two young ones nearly able to fly. They were entirely brown, but others probably a week older were found, which had developed the white and black on the throat and head, which were invisible on the nestlings, as the feathers had not formed on those parts. The birds lay their eggs on the ground, generally near a tussock of porcupine grass, and place a few loose straws around, but in such a careless manner that it scarcely deserves the name of nest. Subsequently, at Haast's Bluff, Dr. Stirling found several nests containing eggs or young ones. There were never more than two eggs, which are about one-third smaller than those of *Ocyphaps lophotes*, and are of a dull, creamy-white colour, with a rather rough surface and lacking the usual glossy surface of pigeon eggs."

The first Plumed Ground-Doves to reach the London Zoological Gardens appear to have been a pair purchased on May

4th 1894. These were entered as *L. plumifera*; nevertheless they belonged to the white-banded form—*L. leucogaster*, and, so far as I am aware, all that have been imported since (quite a large consignment was received by a London dealer in 1904, most of which, I understand, went to America), have belonged to this species. The pair which reached the Zoological Gardens in 1894 nested in the grass of one of the outer flights of the Western Aviary in 1905, and hatched and successfully reared two young birds.

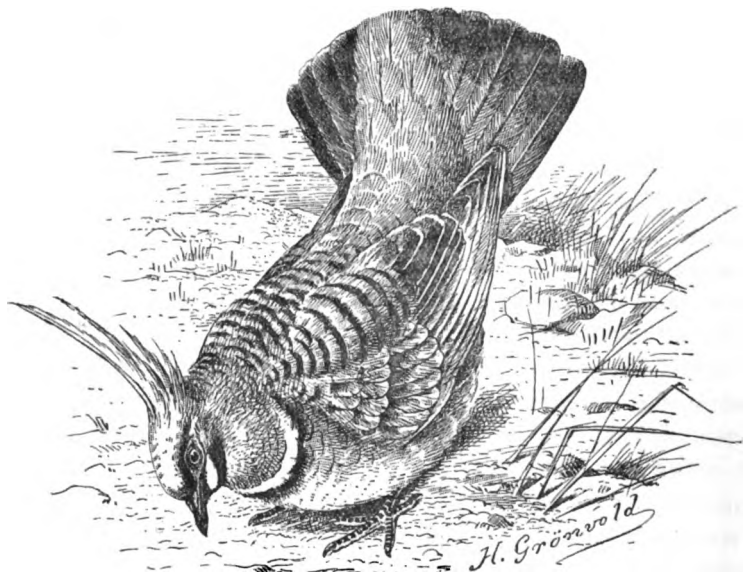
This species was represented in the Zoological Gardens up to the present year 1906, where it was still labelled as *L. plumifera*, a species which has probably never been seen alive in this country if indeed in Europe.

My experience of *L. leucogaster* in captivity has been limited to five specimens, two males and three females, which I obtained in 1905. At first they were very shy, but they soon became tame, and then I found that it was impossible to keep more than one pair together. They are terrible bullies, and a cock will soon clear the place of every ground bird except the hen he is mated to. I therefore kept only one pair, the others going to another member of the Society. Another difficulty with these birds is that the cock every now and then commences to chase and bully his own hen. The pair will caress each other most affectionately for a time, and then the cock will suddenly turn on the hen and chase her all over the enclosure in which they are kept. This habit is, of course, by no means conducive to successful nesting, and so far I have been entirely unsuccessful.

In the spring of the present year (1906) I put this pair into my largest outdoor aviary, and here I think they would have succeeded, but before they had been out an hour they commenced to chase and worry the Quails and Hemipodes to such an extent that my only course was to confine them in a smaller aviary. This was a fair-sized place, about equal to one of the smaller compartments of the Western aviary at the Zoo., and the outer part was well turfed. They had not been here long before the hen laid a pair of eggs in one corner, without any pretence at a nest, and commenced to sit. No sooner had she commenced however than a thunderstorm with tropical rain caused her to

desert. Since this several clutches of eggs have been laid but no attempt has been made to incubate.

The display of the male Plumed Dove is very pretty and frequently performed. He bows to his mate in the most courteous manner, at the same time expanding his tail and wings, and showing off his wonderful patch of iridescent purple-bronze to the best advantage. My pair became so tame that the cock used to run and display to me as I entered the aviary, and then



The Display of *Lophophaps leucogaster*.

he would run at me making quite a savage grunting "coo" with the evident intention of driving me out of the aviary.

These little Doves are fairly hardy and, providing their aviary is well sheltered and dry, would probably do without artificial warmth during the winter in this country. Canary and millet seed seems to be all that they require in the way of food. They are fond however of plucking off the green seeds of grasses and other weeds. A lump of rock salt should not be omitted from the aviary.

A description of this species is unnecessary with Mr. Grönvold's beautiful plate before the reader.

The sexes are alike in plumage, the male being perhaps a shade larger than the female. It is about 8 inches in length.

BREEDING OF THE PINE GROSBEAK IN CAPTIVITY.

By W. H. ST. QUINTIN, F.Z.S.

If anyone wants a charming pet for the garden aviary, which will be tame with its owner, and gentle to its fellow captives, and at the same time one which will never give him a moments' anxiety in time of bad weather, let me recommend the Pine Grosbeak. I have now kept several for nearly two years, and know no hardy bird which shows itself better, and is so lively, without being restless and timid.

Though the aviary is rather a large one, and is secluded from traffic of persons passing, my birds are extraordinarily familiar, and I can stand within a yard or two while the Grosbeaks are busy with the hawthorn sprays, or larch branches, or whatever delicacy is in season.

I started the summer with three males and a female, having lost one of each sex in the spring as I will describe later on. Of these males one had a slightly injured wing, but he was otherwise sound; and, like the other males, in fine rosy plumage.

Several Missel-Thrushes' nests were put up in likely positions, but the Grosbeaks took no particular notice of them. On the 28th May my man Arthur Moody saw the hen Grosbeak arranging some twigs in the fork of a yew, in rather an exposed position, but to some extent screened by the upper branches of the bush. To his surprise, she took up a small bit of a dry spruce branch which he tossed on the ground, and carried it up and laid it with the others, and for some twenty minutes or so she picked up twig after twig as fast as he threw them down for her.

The solid foundation of the nest was made altogether in this way, the male not assisting at all. Possibly the inconvenience of a slightly stiffened wing prevented him from helping.

Pine roots, and coarse bents were used as a lining, but no feathers or soft material; the nest being much like that of the Hawfinch.

On June 3rd the first egg was laid. On the 6th she had three eggs and began to sit. On the 20th June a young bird was hatched in the morning, the other in the evening of the same day. During incubation one egg was cracked, and was found

sticking to a branch of the yew. Whether it was accidentally broken by the hen, or by some other inmate of the aviary, Tits, Crossbills, or Waxwings, we could not make out; but no fighting or quarrelling was noticed. The cock assisted in feeding the young, but the hen alone incubated.

The hen Grosbeak would come on to the fingers of one's hand, and take off the palm the fresh ants' eggs (pupæ), small caterpillars, and sawfly grubs which alone were given at first to the young. To my great delight I saw her while sitting on the edge of the nest, take as many of the ant pupæ as she could swallow, from a teaspoon gently held out to her, and after sitting a few minutes, probably to moisten them, she disgorged them into the mouths of the half-fledged young.

On the 4th July the young birds left the nest. There was no further difficulty with them, and they soon began to eat the parents' food, and became strong on the wing.

At present they closely resemble the female parent (of course they may both be females) but are rather more green than she is on the face and nape, where she is yellow. Their flanks and breasts are also slightly paler; but unless they are all together, it is not easy to distinguish them.

It was strange that with three males to choose from, the hen bird should have mated with the one with the injured wing. But though slightly crippled, this bird was clearly master; and though he did not follow them far, he would, when the nesting was going on, hunt off all the other birds from the immediate neighbourhood of the bush.

My Grosbeaks have a variety of small seeds, including hemp; and a little sunflower-seed as a treat. Of the last they are very fond, and I think it was due to giving this too freely that I lost the two Grosbeaks, and a Crossbill or two, in the spring. At the time I thought perhaps that the deaths were due to the birds having nibbled the growing yew shoots (as they freely do); but since the sunflower seed has been reduced, the birds have kept healthy.

Elder berries, hips and haws, and fresh larch branches, also slices of apple, are much appreciated, but I think that an excess of oily seeds is to be carefully avoided.

BREEDING OF THE JACKAL BUZZARD.

By J. H. GURNEY, F.Z.S.

My pair of Jackal Buzzards *Buteo jackal* (Daud.) arrived from the Zoological Gardens in the autumn of 1904 and stood their first winter in Norfolk in an out-of-doors cage well. Being supplied with nesting materials early in the following spring, they in June built themselves a nest but laid no eggs. However in the spring of 1906 materials being again supplied early and in greater variety than before, building commenced at the end of February, and in about a fortnight the nest, which was chiefly composed of small sticks, was finished, and the Buzzard was sitting on it.

On March 16th the absence of the female for a short time enabled my man to see that there were two eggs in the nest, one of which was chipped on April 18th and this had hatched out by the morning of the 19th. The other egg unfortunately proved to be rotten. As the eggs are believed to have been laid successively on March 14th and 15th, this would give 39 days as the period of incubation of this Buzzard.

At the age of five days the nestling was covered with palest grey down, but on the throat, chin, and face the down was white. On the 16th of May the first feathers were just visible, on the 19th it was a month old and could stand, and by the 28th it was two thirds the size of its parents and growing rapidly, red feathers coming over most of its breast.

By June 5th I think it might have been called full grown, the upper part of its breast being by that time very dark and the sides streaked, the eye much greyer than the eyes of its parents and its legs a paler yellow. On July 4th the eye was assuming a yellow tint, the bird being in excellent health but still showing two or three flecks of down which were not yet shed.

At the age of six months (October 24th) all the under-parts were a fairly bright rufous, without any indication of dark flanks or belly, nor had any of the under feathering those broad white margins which add so much to the beauty of an adult. Head and upper parts brown, tail brown, underside of spread wing partly white, eyes pale yellow. I have been thus particular in the description, because the early stages in the life of this species do not seem to have been described in detail before.

BREEDING OF THE AUSTRALIAN "PEACEFUL" DOVE IN ITALY.

By the Rev. HUBERT D. ASTLEY, M.A.

A pair of these extremely pretty doves, which I have had in an outdoor aviary for three years have reared several young this season [1906]. They commenced in April and have continued steadily ever since, and as I write, have a pair of newly-hatched young. [14th October.] As I have not been in Italy during the summer months, I cannot record with exactitude all their failures or successes, but there are representatives of at any rate three families flying about in good condition and health. That is, there are three birds in adult plumage and one in semi-nestling plumage, which birds must represent three separate nests. In May one bird was successfully reared from the first nest, its comrade having fallen out when about ten days old, and been killed.

Both the young birds hatched in April died in the nest when well feathered. Perhaps the parent birds had not yet gained sufficient experience in feeding, for the hen bird was still brooding her young after life had departed from their bodies.

Between June and October there must have been two more broods, represented by three birds. The first of these broods having two, and the second, one young one. So that altogether there have been at least four broods in seven months; and I rather believe there was another pair of eggs which came to nothing. The nest has been always built in the same place within a covered box, partly open on one side and entirely open underneath. A small bunch of heath (*Erica*) was fixed within, and on this the Peaceful Doves built a fairly compact nest of hay.

The young when first hatched are covered with a fawn-coloured down; but I regret that I cannot describe them more in detail, as I did not care to disturb the parent bird too much.

When they leave the nest they have a *very* spotted appearance. The crown, hind neck, upper back, shoulders, greater wing-coverts and secondaries, have each feather spotted with cream-buff on the ends, and within this spot there is a bar (almost a spot) of *dark* brown. These creamy spots form two

very distinct bars across the wings, on the secondaries and greater coverts.

Over the eyes is a line of buffish white, a spot of the same colour over the ears, and a shorter line *under* the eyes. The bluish colour and the pale pink round the eyes and on the breast of the adult is absent. The general ground colour of the young birds is a dull mouse brown.

As far as I can see, the white of the feathers in the tail is much the same as in the parent birds'. The longer feathers of the secondaries in the wings are somewhat square at the ends, and are tipped with a creamy spot edged interiorly with a line of deep blackish-brown.

I do not pretend that this description is an exhaustive one, and my more particular friends must be content with what to them will probably be an extremely sketchy description! if they are not already acquainted with the Peaceful Dove in its nestling plumage. I am not aware of the exact period of incubation, but I believe it to be about thirteen days.

The cooing of these doves is peculiar, composed of high melodious notes repeated rapidly; and the male bird lifts his tail in the air expanding the feathers as he does so, when courting. As the young birds hatched in June and July are now in full plumage, it is evident that they assume it in at least two to two and a half months.

SUCCESSFUL BREEDING OF THE WHITE-EARED CONURE.

By E. J. BROOK.

As I understand that there is some doubt whether the White-eared Conure has been successfully reared in captivity on any previous occasion, perhaps my success will not be without interest.

My birds are in a large outdoor aviary with an inner house, and they share this aviary with a pair of Golden-headed Conures. The White Ears went to nest in a large natural log, laying the first egg on the 3rd of August, and commenced to sit

when the second egg was laid. Eight eggs were laid, and hatched in about 21 days, producing seven birds which are now flying in the aviary. The first young birds left the nest in about five weeks from hatching.

The young White-Ears differ from the old birds in that the inner web of the flight feathers and larger wing-coverts is yellow, and when very young they showed a good deal of yellow on the back. The old birds are most excellent parents, and at once go to the assistance of any one of their young that may seem to be in a difficulty. I may mention that at night the whole occupants of this aviary, Golden Heads and all, retire into the same nesting box; they must be a bit crowded, but there is no fighting.

[We cannot find any record of previous success with *Pyrrhura leucotis*, but cases in which these birds have nested and even partially reared young, are not rare, and it is hardly likely that so well-known a species has never before bred successfully in captivity in this country. Has any member ever heard of a previous instance in which the young of this species have been reared? ED.]

WHAT IS "THE BENGALEE" ?

By Captain STANLEY S. FLOWER.

Giza, Egypt, 18th Oct., 1906.

- 1st. Consideration : What is the Bengalee ?
- 2nd. Consideration : The application of the name Bengalee.
- 3rd. Suggested names for this bird.

1st. WHAT IS "THE BENGALEE" ?

In the "Avicultural Magazine," Vol. IV., No. 12 (Oct. 1906) Dr. Arthur G. Butler, in an interesting and valuable article "On Hybrid Ploceidæ," brings up the question of the Bengalee, (loc. cit. p. 351); he remarks of it :

- 1st. "Now generally regarded as the domesticated representative of *Uroloncha striata*."
- 2nd. "If, as seems probable, the Bengalee is only *Uroloncha striata* in various domestic guises,"

and he writes of it in the article under the scientific name of *Uroloncha striata* var.

I do not wish to differ from such a good authority as Dr. Butler, to whom I would like to take this opportunity of acknowledging my grateful thanks for much useful information obtained from his writings, but I venture to think that more knowledge of this common but pleasing little cage-bird is required before we can settle its exact affinities, and it also appears to me that it requires a more definite name.

In Dr. Butler's "Foreign Finches in Captivity," (1894), the bird is called:

"The Bengalee, *Aidemosyne malabarica* × *Uroloncha striata*, Linn.,"

and a very beautiful coloured plate by Mr. Frohawk faces page 222, with a picture of each of the three varieties.

In "Foreign Bird Keeping," Part I., p. 52, Dr. Butler uses the same names for this bird.

In Cassell's "Canaries and Cage Birds," the late Mr. August F. Wiener, on page 385, calls this bird:

"The White and Variegated Bengalese (*Munia acuticauda*? *Munia striata*?), Japan.

Spermestes acuticauda (Russ).

English dealers' name—White Bengalese.

German name—'Japanesische Mövchen.'

French name—'Muscades Blanches,' 'Bengalis Blancs.'"

And he gives coloured figures of two varieties, under the names

"Pied Mannikin (Fawn and White),

Pied Mannikin (Chestnut and White)."

I am interested to know whether anyone has actually succeeded in producing "the Bengalee" from typical *Uroloncha striata*, or by crossing *U. striata* with any other species, and also to what extent the three chief varieties of "the Bengalee" breed true?

As regards this second question, Mr. Wiener (loc. cit. p. 386) writes, "It should be stated that in the same nest may be found pure white and piebalds of various shades," but he does not mention the colour of the parent birds. While Miss Emily

Brampton in her excellent account "Bengalese as Cage-Birds," "Avic. Mag." Vol. II., No. 4, (Feb. 1904), pp. 134-135, expressly states: "By putting together birds of different colours I have had chocolate and white, fawn and white, and pure white young ones in the same nest."

This bird being so easily obtainable, making such a charming pet, and being essentially an inhabitant of a cage—(has it ever been found wild?)—should make an ideal subject for experimental breeding.

In the "Avic. Mag." Vol. I., No. 3, (Jan. 1903), p. 112, the Reviewer writes: "Domestication is also responsible for the white form of the Java Sparrow, and the white and pied forms (Bengalese) of the Sharp tailed Finch, *Uroloncha striata*. We perfectly agree with Mr. Finn that there is no reason for supposing the latter birds to be hybrids."

In the British Museum Catalogue of Birds, Vol. XIII., by Dr. R. Bowdler Sharpe (1890), I have failed to find this bird, but one notes that no species of *Uroloncha* or *Aidemosyne* occurs in Japan, where most authors seem to state our "Bengalee" originated; the nearest geographical approach being *Uroloncha squamicollis* Sharpe (loc. cit. p. 359), whose habitat is given as "China, Formosa, and Hainan." Neither apparently does any species of *Munia sens. strict.* extend nearer to Japan than Formosa and Hainan (i.e. *Munia formosa* Swinhoe and *Munia topela* Swinhoe).

Of course that the energetic Japanese and the cage-bird loving Chinese should import and breed birds whenever they have had the chance is most probable, but with other closely allied *Ploceidæ* nearer at hand, it appears to me to want further proof before we can accept *Uroloncha striata* of "Central and Southern India and Ceylon" as the origin of their domestic breeds. On the other hand, I (with no access to a general library) do not know on what grounds the statements rest that our "Bengalee" originated with the Japanese (or Chinese): it may have been evolved in India, but that does not appear to me to be at all probable.

Moreover it must be remembered that our knowledge of the avifauna of Eastern Asia is by no means yet complete:

regarding the Ploceidæ of China, the latest information appears to be :

Mr. J. C. Kershaw, "Birds of the Quantung Coast, China," in the "Ibis," 1904, p. 240, mentions :

"*Munia atricapilla*. Not common.

„ *topela*. One of the commonest resident birds.

„ *orizivora*. Not common.

Uroloncha squamicollis. A very common resident."

And Messrs. J. D. La Touche and C. B. Rickett, "Further Notes on the Nesting of Birds in the Province of Fohkien, S.E. China," in the "Ibis," 1905, p. 43, record :

"*Uroloncha acuticauda* and *Munia topela*" as common residents.

2nd. THE APPLICATION OF THE NAME "BENGALÉE."

Professor Alfred Newton, "Dictionary of Birds," (1893), p. 31, writes: "BENGALI, the dealers' name for the beautiful little African bird, *Fringilla bengalus* of Linnæus, and some of its allies, belonging to the Ploceidæ (Weaver-bird), and referred by later writers to the genus *Estrilda*, *Pytelia* or *Uræginthus*. The name originated with Brisson ("Ornithol." III., p. 203), who believed these birds came from Bengal." But as pointed out by Capt. G. E. Shelley, "Birds of Africa," Part I., p. 186, "Bengala" may equal Benguela in West Africa, and not the Indian province of Bengal.

There seems to me no doubt that the name "Bengalee" originally and by right belongs to the Crimson-eared Waxbill, or Cordon-bleu, called "Le Bengali" by Brisson as long ago as 1760! A lovely little bird we have all known as the *Estrellda phoenicotis* of Swainson, but whose scientific name in both the books on African birds now in progress (Shelley's and Reichenow's) is amended to *Uræginthus bengalus*.

The word Bengalee, variously spelt, has been used in various European languages to indicate almost any of the smaller Weaver-birds, and is still commonly so used in the trade, but thanks largely to Dr. Butler the term is now generally restricted by English aviculturists to the bird that forms the subject of

these notes: and as far as the "English" name is concerned I trust it will remain so, and that our dainty Crimson-eared friend will retain his appropriate name of "Cordon-bleu." If it is necessary in the case of "scientific names" to bow to the "priority-at-all-costs" fetish, there is fortunately no need to do so in the case of vernacular names.

3rd. SUGGESTED NAMES FOR THIS BIRD.

Most aviculturalists, more especially those that have to carry on animal-business in several different modern languages, will agree that a Latin or Latinized name is essential, not only for every species of wild animal, but also for every well marked variety or race, wild or domesticated; some years back, when first dealing with the "Bengalee" of these notes, I could find no Latin name applicable,—Dr. Butler's *Aidemosyne malabarica* × *Uroloncha striata* was not only cumbrous but implied a derivation not generally believed in, I therefore in 1903 coined the name *Munia domestica*.

As regards the first part of this name, the genus *Munia* (1836) in its wider sense may be taken to include the other two genera to which this bird has been assigned, *Uroloncha* (1850) and *Aidemosyne* (1861): the application of *domestica* seems obvious.

Therefore until we can ascertain for certain the origin of this bird, I propose for convenience that it should be called:

The Bengalee, *Munia domestica*;

and the three varieties, as shown in Mr. Frohawk's plate in Dr. Butler's book mentioned above, may be called:

Brown-and-White Bengalee,

Munia domestica griseomaculata (Russ);

Fawn-and-White Bengalee,

Munia domestica flavomaculata (Russ);

White Bengalee, *Munia domestica alba* (Russ).



THE GREAT CRESTED GREBE.

Birds, Sons and Daughters, Ltd.

NOTES ON THE INDIAN *PODICIPEDIDÆ*.

By GORDON DALGLIESH,

(Member of the Bombay Natural History Society).

The genus *Podicipes*, as far as India is concerned, consists of three species. Though the little Grebe is sometimes kept separate the simple plan of including all the Indian genera in one family is most convenient. The three species are:

1. *Podicipes cristatus*, the Great Crested Grebe.
Found in temperate Europe, Asia, Africa, and Australia.
2. *Podicipes nigricollis*, the Black-necked Grebe.
Inhabiting temperate Europe, and Asia, N. and S. Africa.
3. *Podicipes albipennis*, the Indian Little Grebe or Dabchick. Found throughout India, Burma, Ceylon, and Fao at the mouth of the Euphrates.

1. *PODICIPES CRISTATUS*, L.

THE GREAT CRESTED GREBE.

Podicipes cristatus. Jerdon, *B. I.*, iii. p. 821; Barnes, *Birds of Bombay*, p. 418; Oates in *Hume's N. & E. of Ind. B.*, 2 ed. iii. p. 401; Bulkley, *Journ. Bomb. N. H. Soc.*, vi. p. 501; *Podicipes cristatus*, Blanford, *Fauna Brit. Ind. Birds*, iv. p. 473; Dalgliesh, *Journ. Bomb. N. H. Soc.*, xvii. p. 518.

This Grebe is common in Northern India and parts of Bengal on the large *jheels*, and on the sea coasts of Mekrán and Karáchi; Hume saw a few specimens in Manipur. At least one specimen appears to have been obtained in Burma, and one from Assam. It has not yet been recorded from Ceylon. Although it is a winter visitor to India it has been found breeding in Oudh by Mr. A. Anderson, in Guzerat by Mr. Buckley—these two instances in August, in Kashmir by Mr. Theobald in May, and my friend Mr. C. M. Inglis of Darbhanga tells me he believed it once bred in the Madhubani Sub-Division of Tirhoot Bengal, but I have no date of the occurrence. As I had exceptionally good opportunities of watching this splendid bird in the breeding season, I made notes on the spot which were published in the

Journal of the Bombay Natural History Society, and I cannot do better than quote what I wrote to that journal.

The birds were first seen on April 17th (1904) and almost at once commenced nesting. On the morning of the 19th I again visited the place and found the two birds swimming apart from each other. After a short time they met and began to spar with their bills—no doubt a pairing gesture. What I took to be the female bird then scrambled up on a small islet and disappeared among the reeds. A pair of Coots (*Fulica atra*) were nesting on the same place, and tried to drive what I took to be the male bird away. Once they were successful, but after a time the Grebe became master of the situation and drove the Coots away. The way he drove off one Coot was distinctly ingenious. Diving some little distance away, he suddenly came right up under the Coot and fairly “torpedoed” the Coot out of the water. The male bird then rested on the water near the islet, drying and preening its feathers. When it wished to clean its breast it would turn right over on its back, with one leg sticking up in the air. The female bird when she landed on the islet did not stand upright, but dragged herself along on her belly. I did not revisit the place until May 1st, and found the female sitting close. The male was swimming near at hand and again drove some Coots away that came too near the nest. On September 2nd I saw the young birds (two in number) in company with their parents which were very attentive to them, feeding them on small fish. On September 11th I could only see one young one with the old birds. On October 30th I only saw the young one, the old ones had left.

The next year (1905) the Grebes returned to the place on February 25th. At first I only caught sight of one bird which was in full breeding plumage. On looking through my field-glasses I saw it treading water, splashing with its wings, and spinning round and round like a teetotum, with crest raised to its full extent. Presently with neck stretched in front of him (I say “him” for this was the one I took to be the male) he uttered a hoarse croak, and lay flat on the water, flapping his wings vigorously. I saw then the cause of his excitement, for coming towards him was another Grebe also stretched along the

water in the same strange position as the first. The two met breast to breast and chattered together and sparred with their bills. This second bird was not like the first, and still retained the winter plumage and was probably an immature female. The two then swam in company with each other and visited the nesting place of last year. This was, however, covered with water, with the exception of a few stumps of wood and reeds. The male bird appeared, however, to recognise the place, and dived, bringing up a bunch of weed which he offered to the female. The two played with it for a long while, then left it. What made the Grebe bring up this weed? 'For they do not feed on it; it is the stuff their nests are made of. Could he have mistaken the time of the year and thought the new nest ought to have been commenced? No, it was only perhaps a passing whim, or he would not have finally left the weed. I am certain this young bird was not the female of last year,' and probably this action, on the part of the male, of lifting the weed, was to shew the female how and where to build the nest.

The cries of these two Grebes sounded like "Erak erak erak ka ka" and at other times like "Ak ah ak ah" and "er erak er erak" mingled with a buzzing sound. On February 28th I again visited the place and saw the Grebes meet, shake their heads, and indulge in the usual "spar."

When these birds are at rest the head is drawn back between the shoulders, with the bill either straight out in front or else tucked under a wing, and usually one leg sticking out of the water. They are constantly preening their feathers, and their breasts shine in the sun as silver, especially that of the young bird, which is a brighter colour than the older one, and has a purer white breast. The time these birds remained under water after a dive I noted was from three to five minutes. When diving they either roll sideways under and disappear without a ripple, or in head first. On March 5th I saw the female Grebe was much more advanced about the head than she was a week ago, and shewed a decidedly more bushy crest. It is remarkable that birds of this genus come into breeding plumage so early. They are frequently found thus long before winter is over.*

* A lengthy and comprehensive account of the nesting habits of this species, by Mr. K. Selous, may be found in the *Zoologist* for 1901, pp. 339 and 454.

A friend of mine at the British Museum once pointed out to me slight differences in the size of the bill of the Indian bird to that of the European one, the Indian ones being smaller, but I doubt if these differences are constant.

2. *PODICIPES NIGRICOLLIS*, Brehm.

THE BLACK-NECKED GREBE.

Podiceps nigricollis. C. L. Brehm, *Volg. Deutschl.* p. 693 (1831); Hume, *Cat.* No. 947 *bis*; Barnes, *Birds of Bombay*, p. 419; *Podiceps nigricollis*; Blandford, *F. B. I. Birds*, vol. iv. p. 454; Dalgliesh, *Zool.* (1902) p. 454.

Found sparingly at Karáchi, common on the Mekrán Coast; once recorded from Calcutta by Mr. F. Finn, who obtained alive a specimen there in the Market. This is the rarest of the Indian Grebes and is not known to have ever bred in India. I believe I saw once a specimen of this bird in Tirhoot Bengal, but as I did not shoot it the record is not wholly satisfactory. As I can find nothing respecting this bird's habits in India, I shall quote a few remarks on them as observed in England by Mr. O. Y. Aplin (*Zoologist*, Nov. 1904, p. 417). He says: "This bird which we watched for an hour or so, did not feed in the open water, but passed from one bed of pond weed to another, frequently diving for short periods in a limited area. . . . When both birds of a pair were side by side, the larger size of the male bird was quite apparent, but little or no difference was to be seen in the plumage of the sexes. The neck, black before and behind, was clearly divided from the dull white of the breast and belly (the colour of the under parts was only seen when the birds raised themselves in the water and flapped their wings, or rolled on one side to preen themselves); when they flapped their wings the white on the primaries and secondaries showed clearly. A black frontal crest stood up, showing off the silky ear coverts which shone like golden oat straw; eyes a bright clear ruby, something like a ripe red-currant with the light shining through it; bill black. The rufous feathers of the flanks, which covered much of the wings when the birds were swimming in a normal position, shone in the sun with a bronze

lustre. The black neck and wings also showed metallic green reflections. . . . The birds never travelled far under water, but dived in a limited area, as Dabchicks do. The consecutive dives of one bird, which we timed, were 25, 10, 25, 24, 9, 14, 12, 25, 9, and 23 seconds respectively."

3. *PODICIPES ALBIPENNIS*, Sharpe.

THE INDIAN LITTLE GREBE OR DABCHICK.

Podiceps philippensis. Jerdon, *B. I.*, iii, p. 822; *Podiceps minor*, Hume, *N. & E. of Ind. B.* p. 646; id *Cat. No.* 975; Barnes, *Birds of Bombay*, p. 420; id *Jour. Bomb. N. H. S.* i, p. 61; *Podiceps fluviatilis*, Legge, *Birds of Ceylon*, pp. 1059, 1222; *Podiceps albens*, Mandelli, *Blan. S. F.* v, p. 486; *Tachybaptus fluviatilis* apud Oates, *B. B.* ii, p. 441; id in Humes' *N. & E.*, 2nd ed. iii, p. 401; *Tachybaptus albipennis*, Sharpe, Bull, *B. O. C.* iv, p. iv (1894); id *Ibis*, 1895, p. 139; *Podicipes minor*, apud Sharpe, *Yark. Miss. Aves.* p. 148; *Podicipes fluviatilis*, Dresser, *Man. Pal. Birds*, vol. ii, id *Podicipes fluviatilis* sup. spec. *albipennis*; *Podicipes albipennis*, *Blan. F. B. I. B.* vol. iv, p. 475, id *Podicipes albens*, p. 476; *Podicipes capensis*, Ogilvie - Grant, *Cat. B. B. M.*; Finn, *Zool.* 1902, p. 300.

The Indian Dabchick or Little Grebe differs very little from its European ally *P. fluviatilis* and by many ornithologists is only regarded as sub-specifically distinct.

Blanford says: "*P. albipennis* is distinguished . . . by having the secondaries white throughout in adults, and by the black on the chin and sides of the face being less extended."

In habits, mode of nesting, etc. it does not differ one wit from *P. fluviatilis*. In the cold season it is to be found in small parties on all large *jheels* and tanks. In the summer it migrates locally, and the paired birds resort for breeding purposes to almost anywhere where there is sufficient water and shelter, being then found among paddy fields, quite small ponds, or even on moderate sized ditches. It is thoroughly aquatic and is rarely seen on the wing. Like all other members of its family it is a "professional" diver, and on the slightest approach of danger

disappears under water like magic, leaving hardly a ripple on the surface, to appear again some yards farther off from where it dived, only to immediately disappear again and so on until it fancies itself safe. In Bengal at any rate it commences breeding in July, and many a time have I watched these most interesting little birds whilst nesting. Both birds during this time kept up a curious rattling cry, though they are, as a rule, quite silent at other times of the year. The nest is very untidy, being a large floating structure, not fastened to any weeds, nor is any attempt made at binding the materials together in any way; it is simply a rotting mass of weeds and leaves. It is a mystery to me how some of the eggs are ever hatched lying as they do in a nest soaked through and through with water, and I feel sure the eggs are mostly incubated by the heat of the sun as I have never seen the birds sitting during the day. The eggs are always covered up with damp weeds, and these, combined with the heat of the sun, no doubt set up a sort of fermentation that aids incubation. During this period they are very restless and keep on taking short flights across the pond and make a good deal of noise. The male is most attentive to the female and always keeps close to her, feeding her on small fish and aquatic insects. The young when first hatched are pretty little creatures, covered with greyish down and striped black. I once surprised a party of these birds, consisting of one old one and five young. The young at once tried to conceal themselves by hiding among the weeds, while the old one tried to draw my attention from them by fluttering as if wounded in front of my boat. Constant persecution makes them exceedingly wary, but on the other hand, if not molested, they get comparatively tame. The Indian Dabchick undergoes two phases of plumage. In winter the upper parts are light brown and lower parts silky white. In summer the upper parts are a very dark brown almost approaching to black; the neck, chestnut red; lower parts silky grey, suffused with streaks of brown. Some birds retain traces of the breeding dress until November. This is my experience and that also of the writers of numerous books I have consulted on the subject; but Mr. Finn makes the startling statement (*Zoologist*, 1902, p. 303), that: "The so-called winter plumage is merely that of immaturity in

this species. I have never seen the pair of birds whose actions I have noted in any but full adult summer plumage at any time. It is possible, of course, that this pair are abnormal, or very old individuals, but there is no proof of this; and they are free birds leading a perfectly normal life." In this I cannot agree, and I have never seen the birds in mid-winter in anything but the usual winter dress, and very likely, as Mr. Finn himself suggests, these birds of his *were* abnormal.

The usual number of eggs I have found were from three to five, pure white when first laid, but like all Grebes' eggs they soon get soiled by the action of decaying vegetation on which they are laid. If a side-blown egg of any of the Grebes be held to the light it will be seen that the inner texture is a most delicate and beautiful green. All Grebes, especially the Dabchick, have a most peculiar odour that clings persistently to the skin, even after it has dried and lain for years in a cabinet.

It would never do in a paper of this sort to pass over in silence the so-called Sikhim White Grebe, and I cannot do better than quote what Blanford says: "A single specimen of a peculiar whitish Grebe was obtained by the late Mr. Mandelli from a lake in Native Sikhim. No other skin has been obtained. At Mr. Mandelli's request I described the birds as *Podiceps albescens*. The skin is, by most ornithologists who have examined it, thought to be a partial albino of *P. albipennis*. . . . I add a description. Broad forehead, sides of head anteriorly, including the orbits and chin, black; hind neck and upper neck chestnut all round, lower hind neck brownish; remainder of plumage white, except the primaries, which are brown; feathers of the back, scapulars, and secondaries with dark brown shaft stripes. Bill and feet coloured as in *P. albipennis*. Wing 3.75; tarsus 1.3."

I have examined the skin now in the British Museum, and, if I may offer an opinion, I should certainly say that it is merely a variety of *P. albipennis*, though Dabchicks, as a rule, are not subject to variation. In March 1900, on the Hattowrie lake in Darbhanga, Bengal, on more than one occasion I myself saw a peculiar whitish specimen of *P. albipennis*, but though I went out for the express purpose of shooting it, I failed to do so. It may, perhaps, not be out of place here to mention that I have a

skin of a Grebe labelled "*Podiceps fluviatilis*, Morocco," which shows quite as much white on the secondaries as *P. albipennis*, but has the black on chin and throat much more developed than on any skin of *Podiceps fluviatilis* I have ever seen.

NOTE.—The works quoted in the Synonymy are:—

- A Handbook to the Birds of the Bombay Presidency.* By Lieut. H. Edwin Barnes. Calcutta, 1885.
- The Nests and Eggs of Indian Birds.* By A. O. Hume. 3 vols. London, 1889-90.
- The Journal of the Bombay Natural History Society.*
- Fauna of British India.* Edited by W. T. Blanford. Birds. Vols. i.-iv.
- Handbuch der Naturgeschichte aller Vögel Deutschlands.* von C. L. Brehm. Ilmenau, 1831.
- Hume Cat. A rough tentative list of the Birds of India.* By A. O. Hume. *Stray Feathers*, vol. viii. pp. 73-150. 1879.
- The Zoologist.*
- The Birds of India.* By T. C. Jerdon. 3 vols. Calcutta, 1862-64.
- A History of the Birds of Ceylon.* Capt. W. V. Legge. London, 1878-80.
- Stray Feathers: a Journal of Ornithology for India.* Ed. by A. O. Hume. 11 vols. Calcutta, 1873-88.
- A Handbook to the Birds of British Burma.* By E. W. Oats. 3 vols.
- The Ibis.*
- Scientific results of the Second Yarkand Mission, Aves.* By R. B. Sharpe. 1891.
- A Manual of Palearctic Birds.* By H. E. Dresser. 2 vols.
- Catalogue of the Birds in the British Museum.*
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REVIEWS, NOTICES Etc.

THE INDIAN WADERS.*

The useful series of books on Indian birds by Mr. Finn has received another addition in the form of a very nice little book on the Waders. It consists of upwards of two hundred pages of letterpress and is in two parts, the first dealing with the perching and the second with the non-perching Waders.

Few birds are more conspicuous in India than the Waders, few are more interesting and perhaps none are so little known to most people.

Mr. Finn deals exhaustively with all of the wading birds which are found in India, to the number of nearly one hundred and fifty species. We can heartily recommend this little book to all who are interested in Waders.

THE PROBLEM OF THE ORIGIN OF SPECIES.

By CHARLES OTIS WHITMAN (in "Congress of Arts and Science, Universal Exposition, St. Louis 1904," vol. v.)

This is a carefully thought out article tending to show that although "Natural selection, orthogenesis, and mutation appear to present fundamental contradictions" they nevertheless may be reconciled.

The author objects "to the implication that a definite variation-tendency must be considered to be teleological because it is not 'orderless.'" He discusses the difficulty of accounting by natural selection for the incipient stages of useful organisms and points out that no one of our sense-organs can be traced to a rudiment, except in the embryological sense; and he observes,— "Without the assistance of some factor having more continuous directive efficiency, selection would fail to bring out of the chaos of chance variation, or kaleidoscopic mutation, such progressive evolution as the organic world reveals."

After stating that the "study of the problem of the origin of species resolves itself" . . . "into exhaustive studies of single favourable characters, in the more accessible portions of their

* *How to know the Indian Waders*, by FRANK FINN, B.A. (Oxon.), F.Z.S., M.B.O.U.
Calcutta: Thacker, Spink & Co. Price Rs.3-8. London: R. H. Porter.

history," the author proceeds to discuss the development of chequers and bars on the plumage of various *Columba*, his studies leading him to the conclusion that the chequers are of very ancient origin, and (as I understand him) that the bars have been evolved from them: this is certainly not the conclusion to which a study of the nestling plumage of some at least of the African doves leads me, inasmuch as the conspicuous spots on the scapulars and inner secondaries appear in the adults with the disappearance of the juvenile bars. But the paper requires far more careful thought and consideration than can be given to it in a brief review.

A. G. B.

THE SPRING MOULT OF THE AMERICAN LAUGHING GULL.*

Some important observations, throwing much light on the question as to whether the summer plumage of those birds in which seasonal changes take place, is effected by a direct moult or by colour change in the feathers themselves, have been carried out by Mr. C. W. Beebe.

The subject of his observations was a Laughing Gull, *Larus atricilla*, the American representative of our common Black-headed Gull. This bird was reared from the egg in the New York Zoological Park, and the change of plumage from the white-headed winter dress to the summer dress in which the entire head is a dark slate colour was very carefully observed, with the result that overwhelming proof was obtained that the change is effected by a complete moult, and not by any colour change in the feathers themselves whatever.

The new feathers, which are a dark slate-colour tipped with white, grow up between the old white feathers of winter which are gradually shed. As soon as the new feathers attain their full size the white tips break off, leaving the uniform dark hood.

THE SWANS.

Mr. C. W. Beebe, the Curator of Birds at the New York Zoological Park, sends us a copy of a paper from his pen, re-

* The Spring Moul't of *Larus atricilla*, Linn. By C. William Beebe.
From 'The Auk,' Vol. XXII., No. 4. October 1906.

printed from the tenth Annual Report of the New York Zoological Society, on the Swans, only seven species of which, at the present time, inhabit the earth. These he divides into three groups; first the Black Swan of Australia; second the Black-necked Swan of Southern South America; and third the remaining five species of purely white Swans inhabiting the arctic regions of both hemispheres, viz., The Whooper, Bewick's and the Mute Swans of the Old World, and the Trumpeter and Whistling Swans of the New World. Of these seven species six are grouped in the one genus *Cygnus*, and the remaining species, the Black Swan is accorded a genus of its own—*Chenopsis*.

The author of this paper gives full accounts of the habits of each species, so far as is known, and some capital illustrations.

At the time of writing all seven species were represented in the New York Zoological Park.

THE AMERICAN WOOD DUCK.

We have already called attention in this journal to the series of excellent publications on the more important American birds, issued by the United States Department of Agriculture.

The latest of these, which forms Bulletin No. 26 of the Biological Survey, deals with the distribution and migration of North American Ducks, Geese and Swans, and is written by Mr. Wells W. Cooke, assistant in the Biological Survey. It contains no less than 87 pages of letterpress and a good index.

With the increase of population, the reclaiming of marsh lands and the habit of shooting the birds after the pairing season has commenced, the wildfowl of almost all species have decreased in many cases to an alarming extent, and strict protection is advocated. No species has suffered more than the Wood Duck, so well known to us in this country as the Summer or Carolina Duck, *Aix sponsa*, one of the most beautiful ducks in existence. Of this species the author writes: "It is a sad commentary on our present system of game protection that the Wood Duck, one of the handsomest of our native birds, and one whose breeding range is almost entirely within our boundaries, is the species which has suffered most. So persistently has this duck been pursued that in some sections it has been practically

exterminated. Even in States in which it still breeds commonly, as in Delaware and Maryland on the Atlantic Coast, and in Illinois in the Mississippi Valley, public sentiment fails to recognise the importance of adequately protecting the bird, and laws still permit it to be destroyed late in the spring. As a result the Wood Duck is constantly diminishing in numbers, and soon is likely to be known only from books or by tradition."

One thing in connection with the Wood Duck is satisfactory, and that is that it has now become fairly well established as a domesticated species in Europe, and so is not likely to be allowed to become extinct.

STRAY NOTES.

The question as to whether the Kea Parrot of New Zealand is really guilty of the crime of sheep-killing which it has been accused of has at length been settled and, in spite of the opinion of the Wellington conference, the bird must be pronounced as guilty. A paper on the subject was read before the Philosophical Institute of Canterbury, N. Z. on August 8th last by Mr. George R. Marriner, F.R.M.S., Assistant in the Biological Laboratory of Canterbury College, in which the author went more thoroughly into the question than had previously been done. He gave numerous instances in which the birds had actually been seen to attack and kill the sheep.

The method of attack seems to be practically the same in every case. A Kea will settle on the ground amongst the sheep, and after hopping round one of the animals will jump on to its back and commence to tear away the wool. The sheep becomes frightened and dashes away, but the Kea holds on tightly, or releases its hold only to fly after the animal and settle again immediately the sheep thinks it has shaken off its enemy.

Having torn off the wool the Kea commences to dig its sharp bill into the flesh of the animal, which after rushing about frantically for some time generally lies down with neck stretched out in a helpless condition, when the Kea which, by this time, has probably been joined by several others, continues to tear away the flesh and greedily devour the fat. The attack is generally made in the early morning or late evening, or on foggy days, and only those flocks which are kept in the mountainous districts, where the Keas have their home, are in danger from these birds.

The collection of birds at the Zoological Gardens has been enriched by a pair of the very rare Mayer's Pigeon (*Nesoenas mayeri*) from the island of Mauritius. This species is said to be verging on extinction, and it is

doubtful whether any living example has previously been exhibited in Europe. This pair was presented to the Zoological Society by Colonel Manders, R.A.M.C.

Another very interesting addition to the Zoological Society's collection is a fine example of the Kagu from New Caledonia, acquired by purchase. This very interesting species has not been represented in the Society's collection since 1885. Some notes on it appeared in this journal for July 1905 (Vol. III. N. S., p. 280).

Mr. F. I. Berney contributes some very interesting field notes from the Richmond District of North Queensland, to the October number of the *Emu*, and some of the birds he refers to are very well-known to aviculturists in this country.

Of the Zebra or Chestnut-eared Finch Mr. Berney writes:

"During the eight or nine years previous to 1906 *I. castanotis* has been our most constant resident in the bird line, but this year, one of our best seasons on record, when grass and herbage, and therefore, of course, seed, are in abundance, it has entirely left our district, disappearing as soon as the first general rains fell in January, and so far (August) it has not shown up again. The contented manner in which it adapts itself to circumstances, together with its fecundity, will long ensure its being among the survivors in the struggle for existence. . . . A pair that built their nest among the rafters inside a boundary-rider's hut successfully led forth three broods in three and a half months."

Of the Budgerigars (*Melopsillacus undulatus*) the same author writes:

"Their numbers vary; generally a few are about, but the winter is the time of their visitation. From March to July last year we had a wonderful invasion. Their numbers were such that it would be hard to credit without actually seeing them; everywhere you went flocks rose out of the grass, and the air was full of the rush and whirring of their wings. Some of the immense flocks seen at a distance across the open downs were hard to tell from dust storms, even by men who knew the bush well. At one station I heard of forty or fifty being picked up one morning, killed or maimed, beneath a telephone wire that connected two buildings 150 yards apart."

In the same number of the *Emu* Mr. D. Le Souëf publishes the following notes from the Melbourne Zoological Gardens:

"A pair of Cape Barren Geese hatched out four young ones early in June. In July five eggs were laid again in the same nest, the former young being six weeks old. The bird which did not happen to be sitting looked after the young, but they clustered round the sitting bird at night, so were removed and given an unattached male to be looked after. The second brood were duly hatched in July, and are doing well."

These birds evidently lay two clutches a year. The Emus are sitting, the male bird doing most of the work of incubating. The Brush-Turkeys (*Telegallus*) have made a very large nesting-mound early this year, or rather the male bird has, as the hen only looks on. If she comes near he drives her away."

CORRESPONDENCE.

THE SLAUGHTER OF THE INNOCENTS.

SIR,—I think Mr. Attewell in the October number makes a mistake in supposing that birds feel as he feels. It is just what they don't do. Some birds feel the cold much more than he does, and some much less. What we want to arrive at is, How do the birds feel? And we can only arrive at this by experimenting. But it need not be done with cruelty. A little observation will show what the bird is feeling as to cold. About heat it is more difficult. One soon sees that Hang-nests can stand no cold at all. I lost one from the change produced by a hailstorm coming over during the afternoon when I was out, and had left my study window open. It was odd the bird had not enough sense to go into its flannel-lined basket as it did at night. But it takes some time, and I am afraid some cruelty, however unintentional, to discover that a King Parrot suffers from heat. Unfortunately, there is little to guide us. You cannot say all the members of one family will feel alike. The Continental Amazons are hardy; the Island ones more sensitive. Nor can you say that the birds of one region will feel alike. The Macaw can enjoy a snow-storm; the Caique dislikes any cold. *Palæornis docilis* can stand cold; *Pæocephalus senegalensis* cannot—and while *Pal. docilis* is hardy, *longicauda* is by no means so. Most of the Parrots can stand a great deal of cold after they have been a year in England. But they never can stand draught.

One of our members, who is a very successful breeder of the Australian varieties, says that Parrakeets do not mind cold, if the sleeping house is warm. But I believe he excepts Turquoisines.

So you can only find out what each bird likes by watching it. When you find it "cheerful" in a frost then I think there is no doubt it is happier in a spacious aviary, if it has it to itself. But birds are happy in cages. I have known wild caught ones return to their cages of their own accord. Birds' sufferings come from fear, and hunger, and thirst.

F. G. DUTTON.

SIR,—Without question no aviculturist who has experimented with foreign birds in this country will agree with Mr. Attewell. Feathers are probably a greater protection against extremes of temperature than fur; and, if we are to accept the testimony of Hagenbeck, the polar bear delights to bask and roll in the sun in hot weather; so one cannot conclude,

because an animal comes from a hot or a cold climate, that it will be miserable under different conditions. The Gouldian Finch, being a native of Northern Australia, might be expected to do well in a warm indoor aviary; but, as a matter of fact, it does infinitely better, is more healthy, much more lively, and probably lives longer in an outdoor aviary; even though subjected to the frosts of this climate. On bright days, even when the previous night has been frosty, I have seen my birds bathing in the ice-cold water of their pan and evidently thoroughly enjoying it. To speak of this as cruelty is absurd.

The Indian Waxbills are quite happy in frosty weather, as are most of the more close feathered finches; but the African species, at anyrate when recently imported, are very susceptible to cold; yet it is possible that, if turned out at the commencement of the hot weather and kept outside, they may with the approach of cold weather develop warmer clothing than they need during the greater part of the year in their own country; although some of them must during certain months be subjected to intense cold at night in their native haunts.

We are also now aware, through the reports of travellers, that some of the more gorgeous of the birds long regarded as inhabitants of hot climates, that is some of the Hummingbirds and Tanagers, occur at considerable altitudes and are quite familiar with the appearance of snow; so that if we were to confine them in a highly heated aviary we should be subjecting them to wholly unnatural conditions.

In all these things experience is the only satisfactory guide.

A. G. BUTLER.

THE INCUBATION OF QUAILS' EGGS.

SIR,—In your most interesting article on Quails in the current number of the Magazine you give approximately the period of incubation as 16 to 18 days.

This summer I placed some Rain Quails' eggs in an incubator at about 10 a.m. on the 27th of May and they hatched at 3 p.m. on the 12th of June, which gives an incubation period of 16 days 5 hours. The incubator was kept at a temperature of 100 degrees Fahr. It is almost impossible to judge the exact incubation period from the birds, especially if they are at all shy, as they often take to the nest on the afternoon before laying the last egg and do not leave the nest, as a rule, till from six to eight hours after the last bird is hatched, so that an error of anything from 18 to 24 hours may creep in. On the other hand with incubator-hatched eggs a possible error is likely to occur owing to the temperature being slightly different from that of the natural mother.

J. LEWIS BONHOTE.

PARRAKEET NOTES.

SIR,—Will you kindly describe the Adelaide Parrakeet to me. According to Dr. Greene's "Parrots in Captivity" they are like Rosellas

but larger, and that agrees with one I bought of the late Mr. Abrahams: he called it the Giant Rosella. But I have had a bird sent me recently as an Adelaide, which appears to be nothing but a very poor coloured Pennant, being a rusty red instead of dark scarlet. The father of thirteen hybrids I have bred this year with a hen Rosella is exactly like it, and it has been in my possession about three years.

I have another that came in the same lot from Marseilles that is more like a Yellow-rumped Parrakeet than anything else, in fact it is like the picture in Dr. Greene's book but more brilliant, a little redder on the rump and abdomen and the tertiaries are not so yellow. I should much like to know what it really is. It has one great fault: as soon as its tail is perfect after moult it bites all the feathers off short, just as though someone had cut them off with a pair of scissors, but it has never touched any other feathers.

C. P. ARTHUR.

[The Adelaide Parrakeet is not like a large Rosella but may be compared to a washed-out Pennant, in which the colour, instead of being deep crimson, is rusty red. Probably the "Giant Rosella" was a Red-mantled Parrakeet, which is a hybrid between the true Pennant and the Rosella. The hybrids which Mr. Arthur has reared are evidently bred between the Adelaide Parrakeet and the Rosella. The other Parrakeet above described is probably a Yellow-rumped Parrakeet (*P. flaveolus*), some specimens of which are quite a brilliant yellow.

The illustration referred to is not particularly good. ED.].

SWALLOWS AT THE ZOO.

SIR,—When visiting the Zoological Gardens last summer I noticed a Swallow flying about in one of the Aviaries, which I think was occupied by Ducks. I asked a gentleman who accompanied me if he knew how long it had been confined there, and he told me he thought, as far as he could remember, it had been there all last winter. Can you, or any of your readers connected with the Zoological Gardens give me any information about it, whether it really lived through the winter there, and whether it is still there? It would be really interesting to know if a Swallow lived in the open air through our winter.

WILLIAM B. GIBBINS.

[The Swallow which Mr. Gibbins saw was probably the one which lived in the Waders' aviary during the summer of 1905 and spent the winter in the Western Aviary, which is warmed. In the spring of this year it was again transferred to the Waders' aviary. A number of others have since been obtained and we cannot say if the original one is still alive.

These birds seem to do well in the aviaries at the Gardens, where they soon learn to take food from the ground.—ED.].

PARTIAL MELANISM IN BICHENO'S AND RINGED FINCHES.

SIR,—I wonder whether you have seen the Bicheno, or rather Ringed Finches which have been imported recently? They have some in

the Parrot house in the Zoo, or had last time I was there. Some of them are a little larger than the ordinary ones, but the main difference is in the colour between the first and second rings. Instead of being white, or nearly white, the feathers are brown, not a dead brown, but rather as if a child had dipped a brush into very wet paint and had painted the white feathers, giving a patchy effect. I had thought the birds were merely freaks as it were, but last week I ordered some Bichenos from a dealer. He had only two left (I had ordered two pairs) and they came yesterday. One is quite an ordinary Ringed Finch (dealers do not seem to know the difference between Rings and Bichenos) the other is like those at the Zoo. It is rather larger, has a broader, bolder looking head, is warmer in colour and is a patchy brown between the first and second rings. The dealer is expecting some more next week and my second pair is to be sent then. I am wondering what they will be like. Can they come from a different part of the country? I should very much like to know if you have seen them, and what your theory is regarding them.

L. WILLIAMS.

The following reply was sent to Mrs. Howard Williams :

I think the dark colour on the breasts of some Bichenos and Ringed Finches is entirely due to partial melanism, the result of captivity. I have noticed it on several occasions. Those at the Zoo. were quite normally coloured when they arrived, and I believe all that are sold with the dark breasts are birds that have been caged some time. I do not think size has much to do with the change. Gouldians are also liable to partial melanism in captivity.

D. SETH-SMITH.

ORNAMENTATION OF THE MOUTHS OF YOUNG GRASSFINCHES.

SIR,—Some time ago I drew the attention of members to the decoration of the mouth of the Cutthroat, perhaps it may be of interest to note that in the young of the Diamond Sparrow the mouth is marked with metallic looking blue spots and at the gape of the bill there is a bright blue wart plainly visible when the beak is closed. I have sent a baby young one to Dr. Butler, and he thought the fact might be worth recording, hence this letter.

F. H. RUDKIN.

THE BREEDING OF FORSTEN'S LORIKEET.

SIR,—The Forsten's Lorikeets with which I won last year the Society's medal have bred again this year.

In May the hen laid two eggs and they hatched, but when the young birds were a fortnight old they were killed by some Blue Mountain Lories. I removed these birds and the Forsten's Lorikeet laid two more eggs which were hatched on July 22nd. One of these young birds died soon after, but the other one is a fine healthy bird now, out in the aviary. It has its wing feathers, and its head and neck feathers, but the body is still mostly down.

It came out of the old tree on the 15th of October. The eggs are white and round. The parents still feed the little bird, and I think there is every prospect of its living. It does not seem to feel the cold, and is very well and lively.—October 27, 1906.

MARY MICHELL.

ERRATA.

On page 48, line 31 (November number) for Thrushes read *Thistles*.

THE SOCIETY'S MEDAL.

In our October number appeared an account by Mr. Teschemaker of the successful breeding of the Red-headed Finch (*Amadina erythrocephalus*) in his aviary. We can find no record of previous success though on many occasions eggs have been laid.

In the November issue Mrs. Johnstone records the rearing of young of the rare Lorikeet *Trichoglossus johnstoniae*. There can be no doubt that this is the first instance of this species breeding in captivity.

In the present issue Mr. St. Quintin tells of his success in breeding the Pine Grosbeak (*Pyrrhula enucleator*), Mr. J. H. Gurney the Jackal Buz-zard (*Buteo jackal*), and Mr. E. J. Brook the White-eared Conure (*Pyrrhura leucotis*). It is hoped that any member or reader who may know of a previous case of any of these species successfully breeding in the United Kingdom will immediately communicate with the Editor; otherwise it is proposed to award a medal to each of the members mentioned above.

[In our October issue Sir William Ingram records the successful rearing in his aviary of a young Red Mountain Dove (*Geotrygon montana*), but this species, we find, bred at the Zoological Gardens on several occasions from 1863 to 1870].

POST MORTEM EXAMINATIONS.

RULES.

Each bird must be forwarded, as soon after death as possible, carefully packed and postage paid, direct to Mr. ARTHUR GILL, Lanherne, Bexley Heath, Kent, and must be accompanied by a letter containing the fullest particulars of the case, and a fee of 1/- for each bird. If a reply by post is required a fee of 2/6 must be enclosed. Domestic poultry, pigeons, and Canaries can only be reported on by post.

ZEBRA-FINCH (H.) Your bird died of apoplexy.

LOVEBIRD (Miss E. Douglas). The bird sent was a cock. Was much emaciated, and died of heart failure through weakness. It is just possible the hen has kept this one from obtaining sufficient food and it has got gradually weaker and weaker. There was no disease.

Mrs. Drewitt answered by post.

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IV.

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The charge for private advertisements is SIXPENCE FOR EIGHTEEN WORDS OR LESS, and one penny for every additional three words or less. Advertisements must reach the EDITOR on or before the 26th of the month. The Council reserve the right of refusing any advertisement they may consider undesirable.

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Hen Many-colour 20/-; cock rare Yellow-bellied Parrakeet (*Platycercus flaviventris*), slightly drooping wing, but flies well, 15/-; cock Bourke's Parrakeet, perfect, £2; Diamond Doves 10/- pair; Harlequin, Pectoral, and Rain Quails in pairs, cheap; odd cock Pectoral and Rain Quails 5/- each; perfect pair acclimatized Parrot-finches £4.

SETH SMITH, 14, Canning Road, Croydon.

III.

NOTICES TO MEMBERS—(Continued from page ii. of cover).

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Mr. LAWRENCE HARDY, M.P.; Sandling Park, Hythe, Kent.
Miss CONSTANCE E. POWER; Watership, near Newbury.
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All MSS. for publication in the Magazine, Books for Review, and Private Advertisements should be addressed to the Editor, Mr. D. SETH-SMITH Gleugarry, Canning Road, Addiscombe, Surrey.

All Queries respecting Birds (except *post mortem* cases) should be addressed to the Honorary Correspondence Secretary, Dr. A. G. BUTLER 124, Beckenham Road, Beckenham, Kent.

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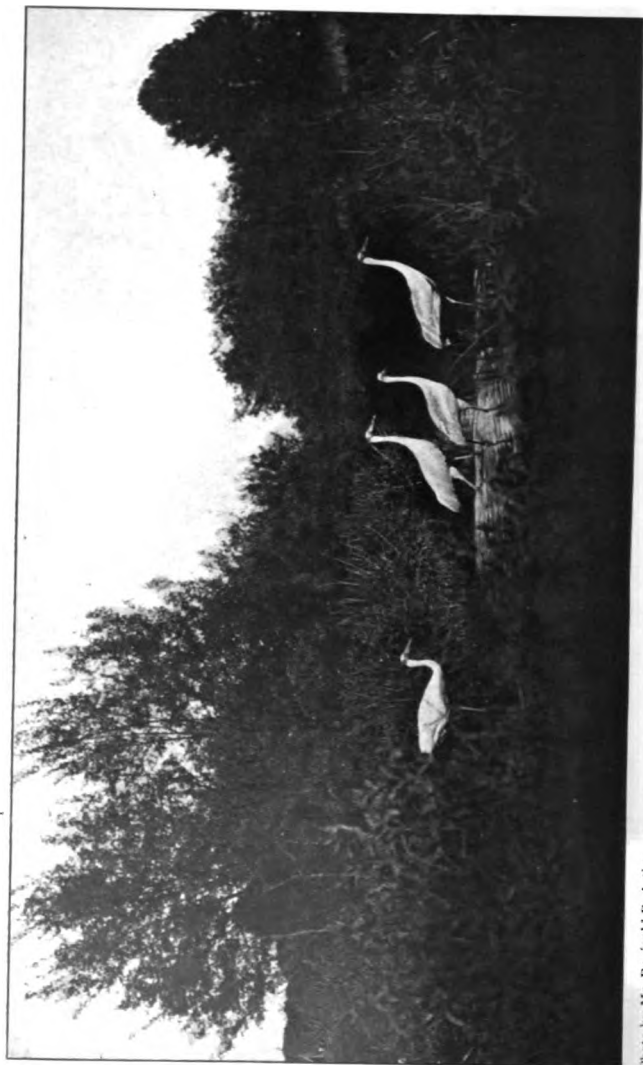


Photo by Mr. Reginald B. Askey.

AUSTRALIAN "NATIVE COMPANION" CRANES AT BENHAM PARK.

Maize, Stone and Danielson, Ltd.

Avicultural Magazine,

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OCTOBER, 1907.

THE CRANES.

By HUBERT D. ASTLEY, F.Z.S., M.B.O.U.

It might perhaps be useful to some of our members to catalogue a list, with a short, and I fear incomplete, description, etc., of the members of one of the most splendid families amongst birds. The Cranes are so stately in their movements, so easily kept in captivity, so tameable and as a rule so long-lived, that it is not to be wondered at if with some aviculturists they rank amongst their very first favourites. The late Lord Lilford was especially fond of them, and possessed nearly every known species, if not every one.

Let us consider their names and habitats, etc.

* * *

1. THE COMMON CRANE (*Grus communis*).

Once fairly abundant in England, now alas ! like the Great Bustard and others, no longer to be found.

Hab. : The greater part of Europe and Asia, wintering in North Africa and Northern India, etc.

Of a fine dark grey colour, face and neck black with white on the cheek running downwards longitudinally. Skin on crown of head, cherry red. Wing feathers elongated and curved like a cock's tail. The call is sonorous and can be heard at a great distance.

* * *

2. THE BLACK-NECKED CRANE (*Grus nigricollis*).

In style very like the Common Crane.

Hab. : Tibet and Koko-nor.

General colour, pale ashy grey ; tail black ; larger wing

feathers black, the inner secondaries being curved and arched as in the Common Crane.

Crown of head covered with rough red skin. Bill, greenish horn. Legs, black.

Very rarely, if ever captured.

* * *

3. THE MANTCHURIAN CRANE (*Grus japonensis*).

Perhaps the most splendid of the family, and one of the most magnificent of birds; well known as depicted upon Japanese screens.

Colour, snowy white. Throat and cheeks, deep black-grey, the same running downwards on each side of the neck, and meeting near the base, behind.

Secondaries, black, the feathers being broadened and curved. Bill, greenish horn; legs, greyish black.

The Mantchurian Crane has often nested in captivity. The call is extremely sonorous and resounding.

Habitat: Eastern Siberia and Mantchuria; wintering in Corea and China.

* * *

4. THE HOODED CRANE (*Grus monachus*).

After the style of the Common Crane. General colour, dark slaty-grey with a brownish tinge, deepening into slaty-black on the curved wing feathers and the tail. Face and greater part of neck, pure white. Forehead: red skin with black hairs. Hab.: Eastern Siberia, wintering in China and Corea. Extremely rare in confinement in Europe. Lord Lilford possessed one specimen.

* * *

5. THE AMERICAN CRANE (*Grus americana*).

Called also the Whooping Crane. Alas! all but extinct, (according to Herr. Carl Hagenbeck). A most beautiful bird. Snowy white with black primaries, and the skin on the crown of the head of a brilliant maroon-cherry red.

A pair still exists in the Zoological Gardens at Amsterdam, but there are probably not many more in the world. It inhabited Central North America, wintering in Florida and Central Mexico.

Its general style and size is that of the Mantchurian Crane.

* * *

6. THE CANADIAN CRANE (*Grus canadensis*).

A sombre edition of the Common Crane, being of a general grey colour, with no well defined black and white on the face and neck as in the European bird.

It is also called the Sandhill Crane.

Hab.: North America, south to Mexico. They live well in captivity.

* * *

7. THE SARUS CRANE (*Grus collaris*).

A very tall and stately bird of a fine French grey colour, the elongated plumes of the wings that hang over the tail, being whitish.

Skin on forehead and crown, pale ashen green; rest of head featherless and of a scarlet red with black hairs.

The upper part of the neck is white, forming a collar. The French call it "Grue à collier."

Hab.: Northern India.

Not infrequently imported, but has probably never bred in Europe.

* * *

8. THE EASTERN SARUS CRANE (*Grus antigone*).

Exactly the same style of bird as the Indian Sarus, but of a general grey colour *throughout*; the red skin of the head extends further down the neck, and the skin on the crown is more yellowish. Perhaps even taller than the *G. collaris*.

Hab.: Burmah, Siam and Malay Peninsula.

Rarely imported.

Imagine a flock of 600 of these magnificent birds circling round in mid-air, which sight Dr. John Anderson once witnessed in Upper Burmah.

* * *

9. THE AUSTRALIAN CRANE (*Grus australasiana*).

The Native-Companion of the Colonists.

[See Vol. VIII., *Avicultural Mag.*, Nov. 1901, for the account of the nesting of a pair of these birds in my possession.—H.D.A.]

Not unlike the Sarus Crane, but less tall. General colour, pale blue-grey, feathers of back and wings having lighter margins. Primaries, black. Crown of head and bill, olive-green; eye, fine orange-yellow; round the ears and the back of the head, coral-

red papillose skin, with fine black hairs. A gular pouch of bare skin, olive green.

It is the only Crane in the whole of Australia. Both male and female call loudly together, standing with their heads back and their bills pointed upwards, the male meanwhile drooping his wings and moving them up and down. The cry is very loud, and, at a little distance, wild and musical.

Like most of the Cranes, the Australian Native-Companion is very hardy, and I lost my first old male through his persisting in standing at night knee-deep in a stream during hard frost, the consequence being that he was frozen in, and killed himself in his evidently frantic struggles to be liberated.

Previously he had had one wing amputated at the shoulder, having been kicked by a horse, in the park, which he had attacked, his whole wing being completely shattered.

* * *

10. THE DEMOISELLE, OR NUMIDIAN CRANE (*Anthropoides virgo*).

The smallest of all the family, and one of the best known.

General colour, pearly grey. Wing feathers (secondaries), very elongated and pendant, grey with black tips. Tail, dark grey. Crown of head light grey, the remainder of the head, throat, and foreneck, slaty black, the feathers of the latter very elongated. A white tuft of silky white feathers springs from behind the eyes, and curves downwards on each side of the neck. Eyes, bright crimson, bill and legs greyish horn colour. Total length, 33 inches.

The males are usually the largest, and the ear tufts are longer.

[See Vol. VII., No. 5, March 1901, *Avic. Mag.*, Mr. Lascelles' account of the nesting of these Cranes in captivity].

Hab.: S.E. Europe and throughout Central Asia to Mongolia, wintering in N. and N.E. Africa and N.W. India.

A most graceful and tameable bird, as well as perfectly hardy; thriving best on a dry soil. This Crane is imported in large numbers. In some parts of Europe the eggs are collected and hatched out under hens. It's cry is a rather harsh crake, but very musical in the distance.

* * *

11. THE STANLEY CRANE (*Anthropoides paradisea*).

A most beautiful species, larger than the Demoiselle, but not so large as any of the other kinds.

General colour, pearl grey with a bluish tint; primaries, black; secondaries, dark grey with black tips, which are enormously lengthened and almost touch the ground. Feathers of the cheeks and back of head lengthened and loose, so as to form a puff. Forehead and crown, white; bill, flesh colour. Total length, about 40 inches.

Hab.: South Africa, Mashonaland, Great Namaqualand, and Damaraland. In a wild state, it devours large numbers of locusts, and on that account requires more meat food in captivity than most of the other species. This Crane becomes very tame, and will often remain, when allowed full liberty, near the place where it has been reared. Regularly imported to Europe.

* * *

12. THE WATTLED CRANE (*Anthropoides carunculata*).

One of the rarest in captivity. A large bird of striking appearance. General colour above, ashy grey. Mantle, underparts, primaries, and secondaries, black; the secondary wing-feathers much elongated and pendant. Crown of head, slaty grey. Whole of neck, cheeks, and fore breast, white. Face covered with red skin. Two wattles with white feathers depend at the throat. Eyes, orange yellow; bill, yellowish brown; legs, dark grey.

Hab.: S. Africa, part of the Congo, and E. to Shoa. Very tame and playful in captivity. Very partial to water.

* * *

13. THE WHITE-NECKED CRANE (*Anthropoides leucauchen*).

The Imperial Crane. A splendid bird after the style of the Mantchurian.

General colour above, slaty grey. Wing coverts, lighter; secondaries, white, being lengthened, curved, and pointed. Fore-neck, breast, and underparts, dark slaty grey. Head, hind neck to the back, white. Forehead and face, covered with red skin, on which are black hairs. Eyes, yellowish; bill, greenish; legs, dull pink.

Hab.: E. Siberia, N.E. Mongolia and Mantchuria, wintering in Corea and parts of China.

Rare in captivity, but very desirable. A young one was hatched in the Zoological Gardens of Amsterdam in 1872.

* * *

14. THE ASIATIC WHITE CRANE (*Anthropoides leucogeranus*).

A large showy bird. Colour: Purest white, with black primaries. Red bare skin on the face, extending to just behind the eyes. Eyes, bright yellow with a somewhat fierce expression. Beak, yellowish-brown; legs, pink.

Hab.: S.E. Europe and Asia Minor to N.E. China. Wintering in N.W. India and China.

This Crane's cry is quite different to any of the others, being weaker and more plaintive.

* * *

15. THE CROWNED CRANE (*Balearica pavonina*).

(*Avic. Mag.*, New Series, Vol. I., March and April, 1903).

The coloured illustrations in the magazine will show this birds' appearance better than a verbal description. The peculiarity of this Crane is the beautiful tuft of straw-like bristles on the back of the head. When the wings are spread, the bird looks much whiter, owing to the display of the wing-coverts. There are two other kinds of Crowned Cranes, viz.: *Balearica regulorum*. The Cape Crowned Crane; which is lighter in colour than *B. pavonina*, where it is grey, and usually has the skin of the cheeks white, with bare red wattles at the throat: and I believe that a third species was obtained on the White Nile, near Khartoum. It is smaller and darker than *B. pavonina*, and again differs in the shape of the red and white cheek patches.

Balearica pavonina inhabits W. Africa to Abyssinia and the tributaries of the Nile.

B. regulorum inhabits S. Africa.

The cry of these Cranes very closely resembles the trumpet of a motor-car, and people have often mistaken it for that when hearing my birds call in the distance. They are very beautiful birds, and when once acclimatized seem extremely hardy. I have possessed three specimens of *B. pavonina* for five years, which have been on open ground with no shelter even in winter time except natural rushes and bushes.

For success in breeding Cranes they require a grassy paddock to themselves. They nest on the ground, collecting rushes for that purpose. Not more than one pair should occupy an enclosure, and if there is marshy ground, so much the better, and shallow water in which they can wade. They will eat grain, crissel, potatoes, bread, greaves, fish and meat, and they delight in grubbing up the earth in search of roots of plants and worms. They are, as a rule, long-lived birds, some specimens having been known to live more than thirty years in captivity. If allowed to walk about without being enclosed, the larger kinds are not always safe, for they will attack people fiercely and sometimes quite unexpectedly. It is best to pinion Cranes, unless their enclosure is covered over with netting, for if the wing-feathers are only clipped, it is difficult to know exactly when to catch the birds up at the moult, and I once lost a magnificent pair of Mantchurians because of this.

N.B.—Those who want to know all about the Crane family should, if they do not already possess it, purchase “A Monograph of the Cranes,” a beautiful work with finely coloured plates of each species by Mr. F. E. Blaauw, whom we are glad to count as one of the members of the Avicultural Society.

SEPTIC ENTERITIS.

By W. H. ST. QUINTIN, F.Z.S., M.B.O.U.

Some details of an outbreak of this destructive disease, which I am able to give, may be interesting, and perhaps useful, to some of my fellow aviculturists.

A sitting of Capercaillie's eggs laid here by a tame bird, was put under a cross-bred Silky-Game Bantam, and six chicks were hatched on June the 20th, one egg being unfertile. Up to July the 20th, the young birds were thriving and growing fast. On the evening of this day we noticed that one of them left off feeding before the others had finished, and huddled up against the little hen, and I remarked that the bird must have got a chill. The affected chick was worse the next morning, and died before noon on the 21st. On the 22nd another died.

Thinking that they perhaps wanted more space, I moved the brood on to some quite fresh ground, with shade and shelter, and plenty of fresh grass, and the food was slightly changed. The young Capercaillies seemed to delight in the change, and ranged about freely with the hen, scratching and dusting, and evidently finding a great deal of insect food, as well as plucking the flowering heads of the grasses. However, another chick died on the 26th and was sent to Mr. Gill for examination. To my dismay the report came back, "Septic Enteritis"; and I realized that I had to deal with a formidable outbreak. In the meanwhile the survivors, which were of about the size of Grouse, seemed perfectly well, actively wandering about the enclosure (about a quarter of an acre); but on the 28th of July another died, and another on the 3rd of August; in each case after about twenty-four hours illness. The sixth bird survived until the 6th of August. This last bird was seen to be amiss on the 1st of August, but it lingered five days, the lameness in one leg, which was greatly swelled, constantly increasing until the poor bird could not stand or move.

I am under the impression that, in the human subject, septic poisoning sometimes takes the form of local inflammatory swelling of some limb: and if I am right, this bird also had taken the infection from the same source, and only lived a few days longer than the others because the vital organs were not immediately attacked.

I was quite unable at first to account for the appearance of the disease, but after talking it over with my Bird-keeper, he reminded me that the female of an apparently sound pair of Cabot's Tragopans, which I had myself selected in London, and sent down on the 13th of June, had been noticed to be ailing on the 23rd and had died on the 26th (when I was abroad). As ill luck would have it, a violent thunderstorm occurred on the 11th of July, and the young Capercaillies were, for about three hours, placed for shelter in the shed in which the Tragopan had died.

The following dates show the progress of the disease:—

13th June. The Tragopans were placed in the shed.

20th June. The female bird was amiss, and she died on the 26th June.

- 11th July. The Capercaillies were shut into the shed.
20th July. The first young bird was seen to be ailing.
21st July. This chick died, and the others at intervals, as narrated above.

Besides the male Tragopan, the hen that brought up the Capercaillies has escaped the infection, but I am keeping the latter isolated, and the shed is to be disinfected, and the enclosure dressed with quicklime.

The whole thing is very disappointing, for Capercaillies are difficult to rear, and the greatest care had been taken with this brood, which was, up to the date of the thunderstorm, in the best of health.

It will be noticed that the period of incubation of the enteritis in the case of the first young Capercaillie, was about nine days, as the bird was exposed to the infection on the 11th July and it began to sicken on the 20th.

Scampston Hall.

NOTES ON THE CUCKOO.

Cuculus canorus.

By GORDON DALGLIESH.

This paper claims in no way to be altogether original, and I have drawn largely from the writings of others, and to many much of the information contained herein will not be new. I have endeavoured in one paper to collect together a mass of interesting notes as a foundation to work upon, and to induce people to study more closely, if possible, this interesting bird and to fill up many gaps in its life history.

Each year, as the pendulum of Time swings to and fro and Spring brings to our shores the Cuckoo, fresh perplexing problems of that "bird of mystery" present themselves to us in full force. Perhaps there is no bird that has claimed the attentions of naturalists more than the Cuckoo, and yet how very little we really know about it. Most of our knowledge relating to its parasitic habits are mere hypothesis based in many cases on insufficient grounds. The Cuckoo is by no means an easy bird to study, and to the majority of ordinary people is far better

known by its voice than actual appearance. It is a shy bird, having a wonderful adaptation of hiding itself from view, though its audible and far penetrating cry makes itself heard for a considerable distance.

Thanks to numerous observers throughout the country many actual facts have been established, which now make it possible to base our theories on substantial ground, in spite of the everlasting verdict of "probable though not proven" presenting itself on every hand. An old Scotch name for the Cuckoo is "gowk" (a fool in Scotland is spoken of as a "gowk,") but why this should be I can never understand. That a bird should save itself the trouble of catering for and looking after a family is, I think, sufficient proof of cunning and deep thought and not want of intellect. A Cuckoo's cry is easily imitated, and in consequence the bird is readily decoyed. It is perhaps on this account the name of "gowk" was given to it. When decoyed both male and female come, and on one occasion I had three hen Cuckoos flying around uttering their curious "bubbling" cry. On several occasions whilst imitating the cry, small birds, notably Willow Wrens and Yellow Buntings exhibited symptoms of excitement. Many of the pictures of Cuckoos in books are drawn quite wrong, that is with the mouth wide open. When uttering its well known cry the bird does not open the bill, the breast being then inflated like a pigeon and the tail slightly raised. This I have many times witnessed. That the female bird calls "cuckoo" is open to doubt, normally her cry is a low chuckle, or else a gurgling bubbling note, at times sounding not unlike that of an alarmed Blackbird. The old rhyme goes, "In June he changes his tune," and this is sometimes wonderfully correct. On the first of June last year 1906, I woke very early, and the first bird note I heard was the broken "cuck cuck oo"; but this is often heard in May as well. The average date of the arrival of the Cuckoo is April 20th. In many papers and periodicals there are notes about Cuckoos having been heard in March, or even February; but there is no proper foundation for these early dates. In all cases only the *cry* has been heard, but no bird has been procured or seen; and until a February or March Cuckoo has actually been secured, it is not wise to place any reliance on these reports.

As before stated the cry of the Cuckoo is easy of imitation ; and on the bright sunny days that often occur in February or March, one's thoughts are apt to wander on to summer, and from summer to the Cuckoo, and perhaps unconsciously we are apt to give vent to our feelings, by uttering the cry well known to all : hence the explanation of "Early Cuckoos." Does the Cuckoo eat other birds' eggs? This is another point that wants attention. Many country people declare they do. Most naturalists, however, are agreed that the egg seen in the Cuckoo's bill was its own, and until some competent observer actually detects it in the art of pilfering a bird's nest we must leave this an open question. Personally I see no reason at all why it should not eat eggs: some of its foreign relatives do so. I once saw an Indian Cuckoo, the Köel (*Eudynamis honorata*), rob a Dove's nest, and fly off with the egg in its bill, hotly pursued by the owner. On hearing the imitated cry of a Cuckoo, a pair of Missel Thrushes I saw, got very excited, and fumed and fussed about, uttering notes of defiance. Now the Cuckoo has not been known to deposit its egg in that of a Missel Thrush's nest, so that the Thrush would have no cause of fear from that quarter. On the other hand if the Cuckoo *does* eat eggs its cry would naturally put the Thrushes on the *qui vive* for the safety of theirs.

Perhaps the most extraordinary part of the whole life history of the Cuckoo is the matching of its eggs with those of the different birds into whose nests its eggs are deposited. One theory is that a Cuckoo deposits her eggs in the nest of the species in which she herself was raised ; and the argument to support this is that, on the Continent, the eggs of Cuckoos have been found in the nests of species which do not nest in this country, namely, the Orphean Warbler, Icterine Warbler and Great Reed Warbler, matching the eggs with types of Cuckoo's eggs unknown in Britain. Eggs of Cuckoos have been found in empty nests of Hedge Sparrow, Meadow Pipit, Pied Wagtail, Red-backed Shrike, and twice in Reed Warblers; in each instance the egg was designed to match those of the owners (*Countryside*, Vol. III., No. 68). Mr. Gillett Cory, writing to the same paper, says:—"I have had the privilege of seeing some sixteen nests, each containing a Cuckoo's egg of different kinds of birds with their

respective clutches of eggs, in every case of which the Cuckoo's egg (had it not been for its slightly larger size) could scarcely have been distinguished from those of the intended foster parents, even such details as the delicate pencilling seen on the eggs of Chaffinch, Goldfinch and others being closely imitated."

Though matching its eggs so well, Cuckoo's eggs found in Hedge Sparrows' nests (one of its commonest victims) are seldom blue, and one theory to account for this is that the Cuckoo during the course of evolution has only recently been attracted to this bird, and as time goes on, the eggs will eventually always be blue.

Blue would appear to be the rarest colour of a Cuckoo's egg. The British Museum possesses four authenticated specimens and these are all except one, Continental, and were all taken from the nests of the Redstart. Butler figures a blue egg in his "Birds' Eggs of the British Isles," and I find a note of another in the *Countryside*, Vol. II., No. 27, which says:—"In the case of a Cuckoo's egg taken here this year, the bird had evidently solved the problem of imitating colour as it was exactly the same shade as the Hedge Sparrows' in whose nest it was placed." Eggs I have seen taken from a Robin's nest in almost the identical spot for three seasons running were a bluish green, faintly speckled with brown, and I have been told that this type is the usual one found in Hedge Sparrow's nests, but I have seen too few to form any opinion, and to me these eggs appeared like a bluish variety of the Robins. In Europe the list of a Cuckoo's victims have been enumerated at 146. Among its commonest victims in Britain are:—Hedge Sparrow, Robin, Reed Warbler, Meadow Pipit, Garden Warbler, Sedge Warbler and Pied Wagtail. From a large series of Cuckoo's eggs, 373 in number, 74 of these were foisted on the Hedge Sparrow (*Countryside*, Vol. II., No. 27). The rarest victims selected are:—Blackbird, Swallow, Song Thrush, Bullfinch, Chaffinch and Nightingale. Mr. T. Hope, writing to the *Countryside*, Vol. III., No. 61, says:—"On May 4th, we saw two young Blackbirds dead on the ground. On looking into the nest we found a Cuckoo's egg resembling a Blackbird's." Mr. L. B. Mouritz (*in lit*) says a Cuckoo's egg was found in the nest of a Song-Thrush in Richmond Park. This was given on

the authority of a Mr. Rillman, Superintendent of the Park. Mr. Mouritz also kindly sent me the following notes of nests personally known to himself that contained Cuckoo's eggs:—Chaffinch (Reigate, 17/5/1884 and '93). Willow Wren and Nightingale. There are also two records of Cuckoo's eggs in Pheasant's nests (*Countryside*, Vol. II., No. 30). These of course were a gross mistake on the part of the Cuckoo and may be dismissed without further comment. I myself on two occasions have found eggs laid on the ground; the birds that laid them probably being disturbed just after. The earliest and latest Cuckoo's eggs that I can find any record of, is April 21st (A. P. Macklin) and July 7th (*Countryside*, Vol. III., No. 36). A Cuckoo before depositing her egg will frequently eject all the other eggs in the nest, and a deserted nest has frequently been found to contain a Cuckoo's egg. It has been found that Cuckoo's eggs deposited in the nests of Chaffinch, Bullfinch, Chiff-chaff, and Nightingale do not resemble those of the fosterer's and the explanation to this is that the Cuckoo, unable to find a suitable nest, is forced to place it in one of these rather than none at all. Mr. A. P. Macklin writes:—. . . . "I found the nest of a Hedge Sparrow, and a few yards beyond, that of a Garden Warbler both containing incomplete clutches of eggs. On revisiting the spot some days later I found that the Garden Warbler's nest had disappeared, but in that of the Hedge Sparrow, a Cuckoo's egg of the most pronounced type but still unmistakably a Cuckoo's egg had been deposited. It is reasonable to assume that this was intended for and would have been placed in the Garden Warbler's nest had this not in the meantime disappeared. A close observer, Mr. Anthony Collett, writes:—"There is another theory that Cuckoos are split up into a number of families or clans, each of which is attracted to some particular species of small bird, and the eggs laid by the Cuckoo specially resemble the eggs of the small bird in question. This, on the whole seems very probable, though it is unlikely that the hen Cuckoo *never* drops her egg into a different sort of nest to the one in which she herself was brought up in."

Does the male Cuckoo first find the nest in which the female is to place her egg? To this query personally I believe

the male *does* direct the female to the spot. Cuckoos, as is well-known, in flight so closely resemble a Sparrow Hawk that only a practised eye can distinguish the two. Now all small birds naturally regard the Sparrow Hawk as their worst enemy and never let slip an opportunity for mobbing it on every possible occasion, (this by the way may be a special provision of nature to enable the Hawk to catch its prey the easier, for sometimes the Hawk will turn round and itself become the master of the situation and carry off one of its tormentors), and seeing a male Cuckoo would not be able to distinguish it from a Hawk and in consequence mob it. Now let us suppose the male Cuckoo has found a suitable nest of say a pair of Pied Wagtails. He will haunt the spot until they catch a sight of him and promptly pursue him. Now the female's chance comes; while her mate is leading off the Wagtails on a "wild goose chase," she, finding the coast clear, deposits her egg. The Indian Cuckoo, the Köel alluded to above deposits its eggs in the nest of the House-Crow (*Corvus splendens*). These Cuckoos are not coloured alike as in our bird, but on the contrary are totally different in plumage, the male being coal black, the female being brown and spotted. Every resident in India who has ever paid any attention to bird life there cannot have failed to see how cordially detested is the male Köel by the Corvine tribe, though no notice is taken of the female. The male in this case leads off the Crows while the female deposits her egg.

It may be as well to state that a typical Cuckoo's egg is a trifle smaller than that of a Skylark, and though differing greatly in colour is pretty uniform in shape and may be described as a blunt oval. Specimens I have personally handled showed little or no gloss, but this was probably due to their being fresh; incubated eggs are often exceedingly glossy and those of the Nightingale in particular. Dresser gives the average size of a Cuckoo's egg as .88ins. + .65ins. For the size of the bird the egg is very small, thus of course rendering transit in the bill an easy matter.

Does the influence of the male have anything to do with the colour of the egg? Mr. Milburn (*Countryside*, Vol. III., No. 67), says: "That the male bird has some influence in the colour

of the egg I am inclined to believe from the following instance. Every year a Hawfinch's nest is to be found on a particular fork of an apple tree near here, and the eggs, always three in number, are of a peculiar heavily-streaked type. As the species is rather too abundant from the owner's point of view the female is shot off the nest as soon as she begins to sit. Still the remaining male finds a fresh mate, and the same place is chosen, the same compliment of eggs laid, and they are always of the same type in the following season. This has been repeated this last six years, and the Hawfinch is a good test because the eggs of different pairs are usually varied. Is it not possible that this influence of the male may have something to do with the variation of the eggs of the Cuckoo? The female most likely has four or five different husbands in a season, and it is possible that a male reared from a Wagtail's nest and the similar type of egg would be chosen when the hen has a Wagtail's nest ready for consideration. The same applies to other common foster parents. This suggestion I know gives the female extraordinary powers of discrimination, but it is the only one that will account for the fact that one can obtain five or six different types of cuckoo's eggs in districts where, at most, only two females frequent the place as far as one can observe."

The Charterhouse Museum at Godalming possesses a splendid collection of Cuckoos' eggs, and amongst the fosterers they do not resemble are: Willow Wren, Wren, Spotted Flycatcher, Yellow Bunting, three clutches of Chaffinches, Greenfinch and Tree Pipit. I also find among the same collection another blue egg, but there is no name to the fosterer, and, as far as I could judge, these were probably Redstarts. These were taken in Finland.

The food of the Cuckoo is chiefly composed of caterpillars, especially those known under the general name of "woolly bear," and Drésser says it will also eat snails and seeds. The flight is extremely swift, and before alighting a peculiar loud swishing sound is produced by the wings. Cuckoos as a rule generally haunt a particular area, and I have known a male frequent a small space for three seasons. Of course this may not have been the same bird, but the fact remains that a Cuckoo was always to

be found there, and it is quite reasonable to suppose it to be the same.

During wet and cold weather it calls little or not at all, and I have frequently heard it at night, this being when the weather was very hot. "He cries as he flies," say country people, and on alighting always prefaces his well known cry with a deep chuckling note, and at times only the first syllable is pronounced several times *without* the last being uttered at all. It was Jenner who first drew attention to the newly-hatched Cuckoo ejecting its foster brothers and sisters from the nest. The late Charles Waterton, who was rather given to criticising—and not always correctly—the statements of other naturalists, ridiculed the idea. Nevertheless, Jenner was perfectly correct, as has since been proved by actual photographs taken of the young Cuckoo in the act of doing so.

There is one instance on record of the Cuckoo hatching its own eggs,* and it is probable that at times young Cuckoos, after leaving the nest are tended by the true mother or other Cuckoos; but this wants confirming. Since writing the above I have found a Cuckoo's egg in a Hedge Sparrow's nest that would—except, of course for its larger size—have exactly matched that of a Pied Wagtail, and in my own mind have no doubt it was originally intended for the Wagtail's nest, but the Cuckoo failing to find one dropped it in the first convenient nest she came across.

There are many good and competent ornithologists who are against the theory of a Cuckoo matching its eggs with those of the fosterer, and it is only fair to state in favour of these that a good many eggs do not match, as will be seen by some of the above notes; but putting these together with those that do, the latter outnumber the former, and possible solutions to this may be: (1) that the Cuckoo may not always find a suitable nest in which to deposit the egg, or (2) that it is only at a comparatively recent period that the Cuckoo has realised the importance of matching its eggs with those of its victims. I am aware that this is again mere hypothesis and may sound weak, but for want of a better explanation I am forced to suggest this. The whole

* *Ibis*, 1889, p. 219.

thing is very puzzling, and unless some more definite solution is forthcoming how can one account for "the delicate pencilling seen on the eggs of Chaffinch, Goldfinch, and others being closely imitated"? I cannot bring myself to think that this is merely accidental and fully believe that, by some mysterious instinct, the Cuckoo tries as far as possible to match her eggs with those of the bird into whose nest they are deposited. Though there are no less than four species of Cuckoos included in the "British list" only one of these—the bird under present consideration—is truly indigenous to our islands, and one of whom many idle and vulgar tales have been told. Last summer I was gravely informed by a man of good education that the Cuckoo turned into a Hawk in the winter, and I believe this superstition is current among country people.

It is interesting to note that many of the birds' names in the vernacular are derived from its cry. I quote Dresser: *Coucou gris* (French); *Cuco* (Portuguese); *Cucu* (Spanish); *Cuculo* (Italian); *Kuck kuk* (German); *Koe koek* (Dutch); *Käki* (Finnish); *Kiekka* (Lapp.); *Kukushka* (Russian); *Tatouk* (Moorish); *Kukku* (Lepcha).

The range of the Cuckoo is given as the whole of Europe to a little beyond the Arctic circle; Africa as far South as Natal and Damaraland; Madeira and the Canaries; Asia from lat. 67° N., the Celebes and Eastwards to Japan. The breeding quarters are in the North and central portions of its range and it winters in the South. I have heard the Cuckoo in the Himalayas at an elevation of 6,000 feet, and its familiar cry seemed strangely out of place coming from the solitude of those vast and gloomy forests, and carried one's thoughts back to green fields and English woods.

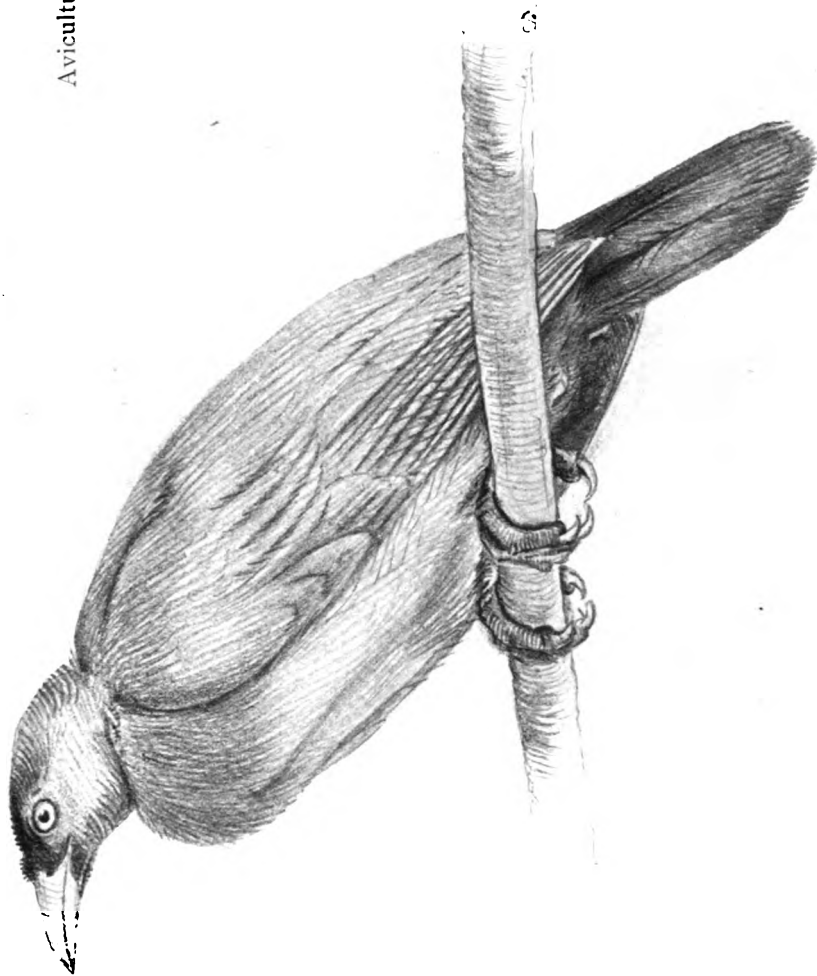
EGG OF THE GREATER BIRD-OF-PARADISE.

By COLLINGWOOD INGRAM, F.Z.S., M.B.O.U.

During his visit to the Aru Islands in quest of living Birds-of-Paradise, my father's collector, Mr. Charles Pratt, was fortunate enough to procure an egg of *Paradisea apoda*, which the natives brought to him about December of last year. Although identification was not absolute, there is no reason to discredit the word of the natives, who positively asserted that the egg in question belonged to the Greater Bird-of-Paradise. As evidence that this tropical species has no regular breeding season, it may be mentioned that an immature bird, perhaps two months old, was brought to the collector about the same time. The nest itself is apparently held in reverence by the natives and the offering of a comparatively large reward failed to secure one.

While the egg was being blown it was accidentally damaged and it is now impossible to give its exact dimensions, but as near as can be judged these are shown in the accompanying illustration, the measurements being roughly 1.6 in. by 1.1 in. The ground-colour is cream, while the bold splash-like streaks radiating from the greater pole, are lavender grey and Vandyke brown. The latter predominate and are the over-lying marks; these also occur in the form of smaller streaks and spots on other parts of the shell.

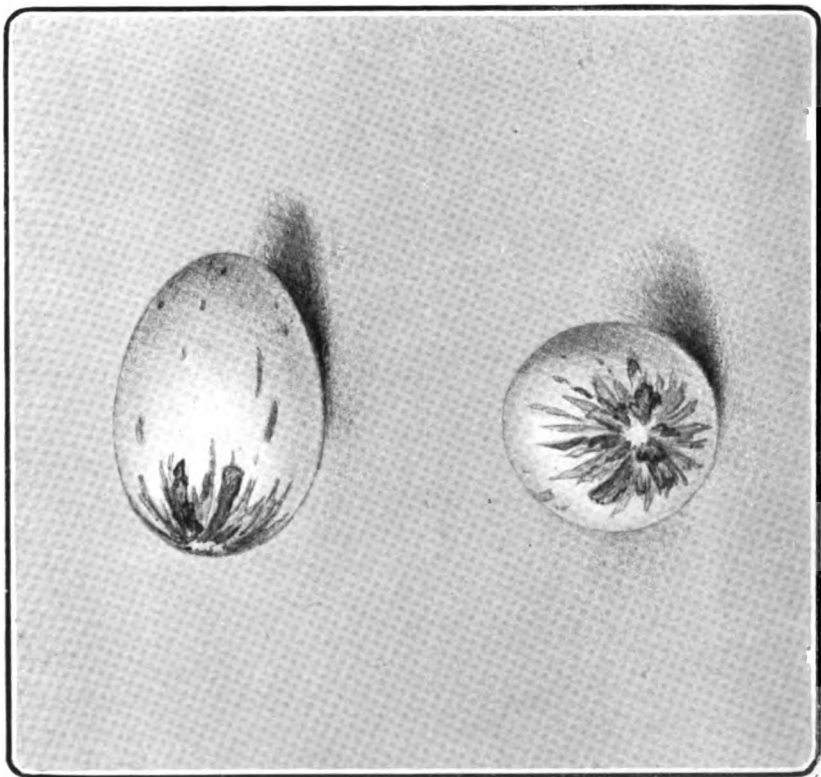
Together with these notes I give a rough pencil sketch of a female *P. apoda*, the first to reach Europe alive. Of course there is no certain means of ascertaining its sex but there is every indication that this bird is fully adult and therefore a female. This statement is further corroborated by the natives who told Mr. Pratt that, to experienced eyes the two sexes were at all times distinguishable from one another owing to their slightly different build. On the other hand the possibility of a mistake suggests itself on account of the peculiar habits of this bird. With the same cries it also goes through similar dancing displays to those indulged in by the full-plumaged male. Readers of the *Avicultural Magazine* may expect to hear more about this and other females as I believe my father shortly intends to write a paper dealing with this subject.



GREATER BIRD-OF-PARADISE.

Paradisaea apoda.

Sketched from a living specimen in the possession of Sir William Ingram, Bart.



EGG OF THE GREATER BIRD-OF-PARADISE.

Paradisaea apoda.

From a drawing by Collingwood Ingram, M.B.O.U.

THE BLACK-COLLARED CRESTED GUINEA-FOWL.

Guttera cristata.

By L. M. SETH-SMITH, B.A., M.B.O.U.

While in Unyoro (Uganda Protectorate) lately I was engaged in making a survey for a new road between Masiindi and Butiaba, a port on the eastern shore of Lake Albert.

The old road passes through a corner of the Budongo forest for a few miles, a forest teeming with objects of interest to the naturalist. It is, however, almost all enclosed within the boundaries of a game reserve, of which the old road is the southern boundary. There are a few miles to the south of the road where collecting is possible. When encamped near the forest I made enquiries of the natives (as I usually do in a locality new to me) about the game and birds to be found in the forest, and among other information thus obtained, I was told of a bird called *Enkanga*, which they said was something like the common Guinea-fowl *Enjumba* (*Numida ptilorhyncha*).

Lunyoro, I may here remark, is one of the oldest of the Bantu languages, and many of the Swahili words are borrowed from it; the Swahili word *Kanga*, which is used for the common Guinea-fowl, evidently being borrowed from the Lunyoro name of this bird. I determined, if possible, to get some of these birds, which the natives told me were very common in the forest; they also said that they sometimes caught them in their nets when hunting a little bluish grey Duiker which is common throughout the forest, so I told them to bring me the next they caught, if possible, alive. Days went by and none were brought and I never happened to come across any myself, though now and then I found blue-spotted feathers of some species of Crested Guinea-fowl. At last, after continually enquiring as to when they were going to bring them, two were brought to me one morning; one dead and the other only just alive—this latter died the same evening. This was disappointing, but at any rate I was able to identify the species.

The natives told me that they had been out for several days trying to get them but had only just succeeded in doing so. I ate these birds and found them most delicious, far fatter and

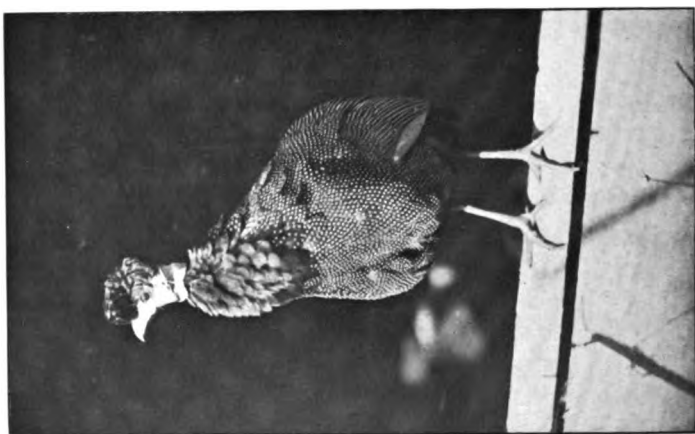
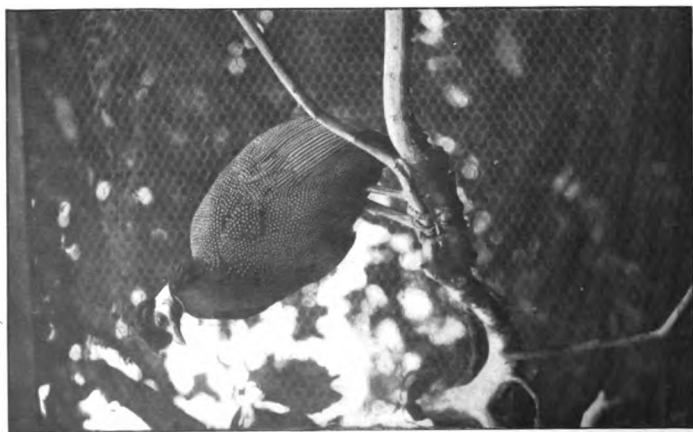
more toothsome than their commoner relative, which is also considered a delicacy.

The next day another was brought me by a man who, wiser than the majority, had set nooses and so obtained the whole of my reward for himself, instead of having it divided among five or six others, as in the case of the first two brought in. Now came the question of a cage, and as I was staying in each camp for about a week, I determined to make a big temporary one at each camp, in which the bird could have plenty of room and also perch at night; so I sent my men out for a lot of straight sticks, about five feet long, which were stuck into the ground about an inch apart, enclosing an area some five or six feet square. The top was then thatched. The whole thing took perhaps two hours to make and was an ideal place for the bird, with room for others if more were brought.

I afterwards simplified this by obtaining a native hunting net some twelve yards long and eight feet high, which I put round four corner posts, thus saving time; but I always preferred the first method as it was stronger, and I found that white ants soon attacked the netting. At the same time I knocked together a large box cage for carrying the bird in.

What struck me most was the wonderful tameness of this bird, which would take food from my hand the first day, even when in this large cage, and also its charming little chatter when feeding, which sounded to me like "That's good—that's good." Its method of showing annoyance was by putting its head down close to the object which displeased it and hissing, also frequently pecking.

The bird was slightly lame when brought in, evidently the result of the noose by which it had been caught, but was soon quite well again. A day or so later another was brought and I paid for it, but I found out afterwards that this one had been stolen from a noose set by another man, so the wrong man was paid for it. This bird also was lame but I hoped it would soon get all right again. They got on very well together, both being perfectly tame and feeding well, but the second bird, a hen I fancy, never put the lame foot to the ground always hopping about and perching on one foot. I afterwards found that the leg



CRESTED GUINEA-FOWL FROM UGANDA.

Bate, Ross and Danielsson, Ltd.

was broken, and it struck me as a wonderful thing that the bird could get on so well and be so tame under these conditions, more especially when it is remembered that these birds in their native forests are of the shiest possible nature, being seldom seen, although I believe very common where they occur.

The feeding was a difficult matter at first as insects were very scarce, however I found that they took readily to raw meat mixed with biscuit, and on this diet I managed to keep them, giving insects when I could find them and occasionally hard-boiled egg. I could not get them to touch native corn.

One incident I should like to mention to illustrate the tameness of this species after three weeks of captivity. I was sitting in my tent one morning and my boy, who was feeding them, stupidly left the door open for a moment. I happened to look out and saw one of these birds strolling quietly about *outside*, picking up a scrap of food here and there, perfectly happy, and all the while chattering to himself. I immediately went out, telling some of my men who came running up to go away again, and walked slowly round the bird which by this time had wandered some twenty yards from his cage. I gradually drove this full-winged bird back and he entered without the least difficulty.

Besides the hissing and chattering, the call note, which is usually uttered morning and evening, is very pretty, being almost bell-like, and is repeated rapidly six times with a short interval between the second and third notes; these six notes are repeated several times, and then the call is sometimes ended by a screech, but this ending is very often omitted.

To cut a long story short, I brought one of these birds home with me, the other died on the voyage, much to my regret.

The bird is now in a large aviary but still quite tame, coming inside as soon as it hears the door being opened, and taking any tit-bit from my hand.

Its favourite food now consists of cockroaches, but it also picks up a lot of seed and I have several times seen it swallow large worms with great relish.

It is really a charming bird and should be easily domesticated. There should be no difficulty in importing them from West Africa where they are, I believe, common though possibly not easily obtained.

The general colour of the bird is black with blue spots, which on the primaries run together forming blue lines. The outer edges of the secondaries are white. Round the base of the neck and on the chest there is a wide collar of pure black. The head and neck are bare except for a fine crest of curly black feathers and are of a dark slaty colour, the chin and throat being red. The skin at the back of the neck is folded in a curious manner and looks like a piece of ribbon tied round the bird's neck. On the throat also, the red skin is folded on each side looking not unlike large wattles.

IS AVICULTURE A SCIENCE ?

By Dr. A. G. BUTLER.

In his introductory notes to the Class Aves (Birds of North and Middle America, vol. I, pp. 1, 2) Prof. Ridgway observes :—
“There are two essentially different kinds of ornithology. *systematic* or *scientific*, and *popular*. The former deals with the structure and classification of birds, their synonymies and technical descriptions. The latter treats of their habits, songs, nesting, and other facts pertaining to their life-histories. Although apparently distinct from one another, these two branches of ornithology are in reality closely related and to a degree interdependent. The systematist who does not possess an intimate knowledge of the habits of birds, their mode of nidification, the character of their nests, eggs, and young, is poorly equipped for the work he has in hand, while the popular writer who is ignorant of scientific ornithology and who neglects to keep in touch with its progress is placed at an equal disadvantage—his writings may entertain, but are far more apt to mislead, through erroneous statements, than educate. Popular ornithology is the most entertaining, with its savor of the wildwood, green fields, the riverside and seashore, bird songs, and the many fascinating things connected with out-of-door Nature. But systematic ornithology, being a component part of biology—the science of life—is the more instructive and therefore more important. Each advance in this serious study reveals just so much more of the hidden mysteries of creation, and adds proportionately to the sum of human knowledge.”

While the above statements evidence a breadth of view unusual amongst the majority of systematic Ornithologists, at the same time they are only an expression of the individual judgment of a first-class systematist: and the implication that the study of bird-life is unscientific, because fascinating, and the study of dead birds is scientific because it necessitates close study and mental fag, is to my mind unsound and illogical.

Science is the acquisition of knowledge, in fact it *is* knowledge; and whatever secrets of Nature we discover, whether they deal with the external or internal anatomy, or whether they deal with the habits of an animal, are of scientific value. But there is this difference between the work of the student of life and the student of death; the former deals with facts and facts only (though he may theorize as a result of his discoveries); he deals direct with Nature and truth, and what he records, if he be an accurate observer, is immutable and a definite gain to science; the latter also deals with facts, but interprets them according to his own judgment; and thus often misleads subsequent workers. In some cases a single structural peculiarity is assumed to be all-important, and a classification built up upon that alone, and later on it is discovered that this peculiarity is variable; then the little brick castle is demolished and another is built on an entirely different plan.

Systematic Ornithology is akin to an effort of the finite to compass the infinite (an admirable exercise in which we are doubtless fated to indulge into the *ewigkeit*). Without the Aves of the world, since they first came into existence until the present time, to study from; no absolute certainty can ever be attained to respecting the evolution of existing types: we may have convictions and form shrewd opinions, but we can never know for certain.

The study of classification is quite as fascinating in its way as the study of habits, and each succeeding strenuous worker probably gets a little nearer to the truth; but the careful observer of the living creature starts with the truth, and keeps on building up a structure of facts which cannot be overthrown. Is his labour then less scientific because it is not subject to man's criticism and unalterable, because it is a definite gain to human

knowledge?—I trow not. The single item of bird-food, because of the extent to which it affects agriculture, and consequently the well-being of man and beast, is of the highest scientific importance.

Aviculture, or the study of bird-life in aviaries and cages, is a necessary adjunct to the study of the wild life; to those of us who are not able to wander over the face of the earth, it is the only way in which we can discover many facts relating to the birds of other lands: even those who do travel are often unable to study the life-history of a bird on account of its skulking habits, whereas in a suitable aviary there is no difficulty whatever.

Of course all aviculturists do not take up the study of birds in a scientific spirit; many of them merely take pleasure in keeping them because they are charming ornaments for the home; but this fact does not prove that Aviculture in its highest sense is unscientific. Many of the truths affecting the synonymy, the nidification, the courting, the tendency to polygamy or polyandry, the duration of incubation, and the sexual characters of birds, which aviculturists have brought to light, should be of the greatest scientific interest even to a systematist.

Dr. E. Hartert says that "Aviculture is generally a hobby, and a very interesting one, but not strictly a branch of science, although sometimes scientific questions have been and will be solved by its means, especially when experiments are made with that purpose." (*Proceedings of Fourth Int. Orn. Congr.* p. 266). The same may be truthfully said of systematic work: the majority of those who take up the various branches of Natural History do so for the sake of a hobby; some of them, like the keepers of living birds, are mere collectors and only visit Museums in order to find out the names of their specimens, but among these private collectors are men who are fully as scientific and methodical as any Museum curator.

Dr. Hartert says that "Ornithology has advanced further than many other branches of zoology." Is this so? Can the systematic Ornithologist sex all his skins at sight as the Entomologist does his insects? If so, why is it that there are more unsexed than sexed skins in collections? A science which

has not advanced far enough to enable its votaries to sex specimens by external characters, but is dependant upon the more or less reliable statement of the taxidermist who skinned the specimen, can hardly be said to have got ahead of many other branches of zoology. In this item of knowledge of external sexual characters the aviculturist has advanced further than the systematist, and therefore in that branch of his legitimate study has proved himself the more scientific worker.

Without doubt the system of careful measurements adopted in the United States National Museum is doing much towards throwing light upon sexual differences; but, without knowledge of the exact ages of the birds which are measured, that light must be greatly obscured. We know that nestling birds have a very wide gape and that the breadth of the bill gradually narrows with age. This narrowing process has not ceased at the time of the first moult, when many birds acquire their adult plumage; at this time also the young have not attained their full length, but are noticeably smaller than their parents: now it is quite conceivable that the young birds from the same nest might all fall to the gun of a collector in one State, and when compared with adult birds from another State might be described as a distinct sub-species on the score of their smaller size and shorter broader bills.

This being so, the more species that can be bred and studied in captivity, the better will the systematic student be equipped for comprehending the meaning of the various measurements in his cabinet specimens. Without the assistance which such information as the breeder might supply, the only chance for the systematist, when searching for sexual differences, is to pick out and compare the largest sexed examples from the same locality.

Any addition to the knowledge of man is science: for any man to assert that his work is scientific and the other man's is not, when both are helping to educate the public, is unreasonable; his work may be more irksome and brain-wearing, but it is not more scientific on that account.

CORRESPONDENCE, NOTES, ETC.

NORTH AMERICAN BIRDS.

SIR,—I am delighted to learn that so many of the American birds which I sent to the London Zoo. arrived there safely. It is an honor nowadays to be instrumental in adding a new species to the long list of those which have made their home in that well-known institution, and I was indeed surprised when I saw from the list in the *Avicultural Magazine* that no fewer than eighteen were formerly unrepresented. A word as to these birds may be of interest to those of your readers who have not had the opportunity of observing them in the United States.

They comprise the commonest migrants in our Eastern States, and it seems at first inexplicable that they should be unknown in English collections. The reason is easy to imagine however. From the multitudes of English birds which reach us through dealers, and from the notices which appear in the papers, every third country man and boy on your Island seems to be an expert trapper, while with us, not one farmer or boy in ten thousand knows how to trap a bird, or to feed it after he takes it from the nest. He knows only how to shoot it. All the collections of living birds in the United States have been chiefly of foreign species, with native birds absent or sparsely represented, and now, stringent laws wisely forbid the keeping of native birds by private individuals.

The collection of native birds in the New York Zoological Park is without doubt the largest ever made in the country, and with its exhaustive labelling is of the greatest economic value in teaching thousands of people the usefulness of birds and the advisability of protecting them. Even the making of this collection was no exception to the rule of the superiority of the English in trapping, for part of it is due to the keenness and skill of an English keeper.

Our native Warblers have never been kept in confinement until within the last two years, so I was especially glad to be able to send representatives of this family, the *Mniotiltidae*, of which we Americans think so highly. May I suggest that you have made an error in the naming of the Oven-bird, *Dendroica discolor* being the small and very different Prairie Warbler, while the correct name for the Oven-bird is *Seiurus aurocapillus* (Linn.). Although only four species of warblers were sent, they are well representative of the wonderful adaptive radiation of this unusual family; the Yellow Warbler being perhaps typical; the Redstart showing the habits, broad mandibles and bristles of a Flycatcher, and the Water-Thrush with the wading habits and teetering motion of a Sandpiper.

Our Chickadee looks strange to our eyes under his new name of Titmouse, but as our English ancestors first called him Chickadee there is no reason why Englishmen of to-day should not replace it with another if

they see fit! But, joking aside, I am truly glad to see you use our name of Robin, prefixed by American. There is no reason why every land should not have its Robin, and ours is as dear to us under that name as your smaller, sprightlier Redbreast is to you. However, from the standpoint at least of scientific names, we in this country can throw no stones. In the case of Robin: *Turdus*, long before I can remember, gave place to *Merula*, by which name I have always known it; lately, in the twinkling of an eye, that is replaced by the strange, uncouth *Planesticus*. Whether this will be valid to-morrow morning remains with our too energetic taxonomists—*Quien sabe?* perhaps it may swing back to *Turdus* again. Hence our affection for the vulgar but far more stable name Robin!

I regret that the ornithologists of every nation cannot agree on some universal system of nomenclature and specific naming, for the benefit of those of us whose love for the bird itself and its life exceeds the desire to make of its name more than a convenient handle—a means to an end—not *vice versâ*.

C. WILLIAM BEEBE,

Curator of Ornithology,

New York Zoological Park.

BRONZE × MAGPIE MANNIKIN HYBRIDS.

SIR,—The rearing of this cross has occurred in my aviary from the chance pairing of odd birds. The nest was so dark and deep that I do not know how many eggs were laid, neither are there any leavings of other eggs in the nest. This may be accounted for by the fact that the young bird reared left the nest while I was away on my holidays, and there are several species in the aviary that soon clear away any eggs they can get at. The parent birds now take no interest in the nest whatever.

The young bird has been out of the nest for ten days: it is a little larger than its male parent, and is quite of a nondescript appearance, being of a dark umber-brown above, washed with chocolate colour on the upper back, and of a light umber-brown below, with a suspicion of fawn at the base of the feathers. I believe this is the first time this cross has been reared.

WESLEY T. PAGE.

COLOUR CHANGE IN FEATHERS.

SIR,—Having for many years been puzzled at the rapid change which takes place in the Fjeld Ryper (Ptarmigan) in late autumn, from brown to pure white, I wrote last October to a Norwegian, a man I have known for many years, whose life is mostly spent in the woods, asking him to procure me some Ryper in the condition of the winter change from brown to white feathers. On the 1st of December 1906 the man wrote as follows: "I did procure six birds for you, but the brown feathers were so loose that they all fell off themselves, so I have sold the birds as I thought it useless to send them." This is clear proof of an autumn moult.

Norwegians tell me that the hare turns white by losing the brown coat, and that the Eider Duck also moults the coloured feathers to grow white ones.

I have had various Pheasants this summer: the young are beginning to put on tinges of gold in patches, and the pen is full of their moulted feathers; no adults are in the pen with them. ROSA HAIG THOMAS.

TURDUS MURINUS.

SIR,—I have once more had the *audacity* to correct the authorities at the Zoological Gardens! Having lately purchased a Thrush brought over from Guiana as *Turdus phæopygus* (Mr. Harper who brought it is in no way to blame for the mistake) and having examined the bird and compared it with the coloured plates in Seebohm's splendid work, "The Monograph of the Thrushes," I come to the conclusion that it is *T. murinus*, not *T. phæopygus*. Having also seen a Thrush, of the same species as my own, in the Western Aviary at the Gardens, labelled as *T. phæopygus*, I ventured [what WILL the Superintendent say?!] to write to Dr. Chalmers Mitchell to suggest that the said Thrush had been misnamed.

Dr. Chalmers Mitchell at once wrote to say that he would have the bird examined, and a few days afterwards I received this reply:—"I have sent over the Thrush to the British Museum for Dr. Bowdler Sharpe to see it. He agrees with you that it is *T. murinus*, although not quite a "normal specimen."

I might add that *T. phæopygus* is a Thrush with much more russet coloured upper parts than *T. murinus*, and also with the stripes running from the base of the bill down the throat much more defined, ending in a white patch beneath them. *T. murinus* is of a more olive brown on the upper parts, the stripes on the throat are considerably fainter, and there is no white patch at the base of them.

T. murinus rather resembles a female Blackbird. Anyone not well up in the Thrush family would, on first sight, put it down as such.

The bird that I have promises to be a very good songster, for although he is moulting he gives forth [*sotto voce*] some very sweet notes.

Mr. Harper very courteously offered to take the Thrush back if it proved not to be *T. phæopygus*, but I am quite content with it as it is.

HUBERT D. ASTLEY.

TREATMENT OF WOOD-SWALLOWS.

SIR,—Would you be so kind as to advise me on the treatment of some Wood-Swallows I have just had sent to me.

I conclude these birds are Shrikes and so at present I am feeding them on a mixture of crushed sweet biscuit, dry ants' eggs, dried flies, and egg-flake moistened, also about two or three mealworms each a day, and three times a week a very little raw meat grated into the insect food.

I have never kept this class of bird before, so am uncertain about the number of mealworms that can be given and the amount of raw meat, also whether the meat should be given daily or not.

Should any green food be given?

E. J. BROOK.

The following reply has been sent to Mr. Brook :

The Wood-Swallows are generally admitted to be related to the Drongos: they have also been regarded by various writers as relatives of the true Swallows, the Orioles, and the Starlings. You must not decide upon their food by their relationship to the Drongo-Shrikes, although in their wild state the latter feed chiefly if not entirely upon insects.

The natural food of Wood-Swallows consists chiefly of living insects, but it is possible that they may also feed upon soft fruits and honey, both of which they are fond of in captivity. Any good insectivorous food, such as "Century Food" or "Improved Sekto" would be suitable as a staple: soft fruit should be added, but I should not advise honey on account of its sticky nature; living insects need only be given occasionally, especially if only mealworms are available. Do not give raw meat, it is sure to cause diarrhoea.

A. G. BUTLER.

QUAIL-FINCHES AND HARLEQUIN QUAILS.

SIR,—As shortly I am obtaining a pair of Quail-finches and Harlequin Quails, I should be obliged if you would let me know if it is proper to feed the former on white millet and canary and the latter on the same with occasionally split peas and lettuce.

When acclimatised, are these two species hardy enough to winter in an outdoor aviary?

NICHOLAS O'REILLY.

The following reply has been sent to Mr. O'Reilly :

Quail-finches require white, Indian and spray millet, canary seed and flowering grass. They should always have access to grass, and if kept in a cage, should be supplied with a fresh turf every two days or so. They should also have access to a piece of rock-salt. They are not particularly hardy, and would not be likely to stand the winter in an unheated outdoor aviary.

Harlequin Quails are quite hardy and may be kept all the year round in an outdoor aviary. They should have access to plenty of grass and be fed on canary and millet seed. Do not forget a piece of rock-salt.

D. SETH-SMITH.

RUFFED GROUSE AND PRAIRIE HENS.

SIR,—One reads articles and letters from time to time in various papers as to the desirability of keeping and breeding the American Ruffed Grouse and Prairie Hen in this country.

The former, at any rate, is a bird that all lovers of game birds would

wish to possess, but, according to my limited experience, it is practically impossible to obtain either it or the Prairie Hen.

Having a friend in the States (both a business man and a sportsman) I wrote to him a few months since to investigate matters, and try to get me some of these. He set to work and sent me a mass of correspondence from Game Commissioners, Naturalists, Officers of the U. S. Department of Agriculture, Bird Dealers, etc., all pointing to this, namely that the Ruffed Grouse and Prairie Hen were so scarce it was almost impossible to obtain them, and further that the laws of most of the States prohibit exportation.

I should be delighted to hear that the information is erroneous, but I fear not.

Before it is too late cannot some enterprising member of the Avicultural Society, with better means and knowledge for the purpose than I possess, be persuaded to make a determined effort to obtain a few of these birds for breeding in England? The legal difficulty in America could be got over by license or otherwise.

It is believed the birds would do well under suitable conditions in this country, and, if once a stock were obtained, the result would surely be worth the initial trouble and expense.

I would readily subscribe to a fund if anything can be done.

Matters move fast in America, and soon I fear it will be too late.

C. BARNEY SMITH.

NESTING HABITS OF THE LITTLE GREBE.

SIR,—On May the 19th last, I saw a Little Grebe (*Podiceps fluviatilis*) sitting on a small and weedy pond a few yards from the bank. To the best of my knowledge she had been sitting there at least a week. On my revisiting the place on July 1st, I found to my surprise the bird was still sitting on the same nest. Surely this could not have been the first lot of eggs? Does the Little Grebe use the same nest for the second lot of eggs? I had always understood another nest was made for these. Any information on this point I should be very grateful for, as I have before sent this query to another magazine which has altogether ignored it:

GORDON DALGLISH.

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